*Comment for: (Activity) New England Waste Services (User) Marguerite Adelman - madel51353@gmail.com*

I would like to provide comments on the DRAFT AMENDED PRETREATMENT DISCHARGE PERMIT (ENB ID = 23.0022657) for NEWSVT. I have a number of concerns about this permit.

First, Vermont is allowing a private corporation to design and install a system that will impact the health of the environment and the people of our state. The state should be dictating what technological systems are utilized and should have operational control and management over the facility. If control is left to a private corporation (which has a monopoly on this service), they could easily expand to import leachate from other states, making a profit from taxpayers' dollars and further contaminating the rural Northeast Kingdom.

Second, leachate treatment (for PFAS) should be managed by a municipal wastewater treatment facility that has been upgraded to remove all contaminants. Montpelier received federal funds of $1,000,000 (taxpayer money) which they gave to Casella to build the leachate treatment facility in Coventry, rather than to upgrade their own facility, which is very much needed and would have provided a greater benefit to all those taxpayers downstream of Montpelier as leachate is not the only pollutant in the influent they process and discharge into the Winooski River.

Third, the watershed of an international lake that is a drinking source for 175,000 Canadians is NO PLACE for a landfill leachate treatment facility.

Fourth, the proposed leachate treatment system of NEWSVT will not remove all PFAS components from the leachate.

Finally, with climate change, 100-year storms are becoming much more frequent. Hurricane Irene was in 2011, and this past summer 2023 was another 100-year storm. The landfill was not designed for the frequency of these extreme rain events. Locating a leachate treatment facility adds many more points of failure that will compromise the safety of the environment in extreme weather. If sensors and pumps fail, leachate will easily pour into the Black River and into South Bay. This happened in May of 2021 in Bethlehem NH when over 154,000 gallons of leachate spilled into the Ammonoosuc River. This was the second time a failure of this type occurred in Bethlehem NH. There was a similar event in 2018.

Permit Amendment for 3-1406.2304 Applied for by New England Waste Services
PRETREATMENT DISCHARGE PERMIT
SIGNIFICANT INDUSTRIAL USER

I fully support the treatment of landfill leachate to remove PFAS and other contaminants, but I am strongly opposed to any treatment or discharge of leachate in the Memphremagog watershed.

Selected Location is Unacceptable

Any treatment of leachate should not be located in the Memphremagog watershed. The landfill is currently contaminating the groundwater and wetlands, which flow into the Black river and on to the South Bay of Lake Memphremagog. Any additional infrastructure introduces more risk, and more potential points of failure. Pumps and sensors can and do fail, and if there is not staff present 24/7 then catastrophic events can occur, as happened in Bethlehem NH when 154,000 gallons of leachate flowed into the Ammonoosuc River.

After reviewing several of the spring and fall water quality reports, as well as the data files that are published with the reports, there is evidence to suggest that the landfill is contaminating the groundwater. The following chart was compiled from the "PFAS Leachate" file that was included in the October 2020 Water Quality Sampling, and Analysis of Trends and Standards Exceedances prepared for NEWSVT by Waite Heindel January 12, 2021.

**NEWSVT Landfills**
**Coventry, Vermont**
**PHASE III Cells 1&2 - Primary Leachate and Underdrain**
**Perfluoroalkyl Substances (PFAS)**

Data from: WAITE HEINDEL Environmental Management

| Location | Sampling Date | Perfluoro-octanoic acid (PFOA) (ng/L) | Perlfuoro heptanoic acid (PFHpA) (ng/L) | Perfluoro-butanoic acid (PFBA) (ng/L) | Perfluoro-pentanoic acid (PFPeA) (ng/L) | Perfluoro-butane sulfonic acid (PFBS) (ng/L) | Perfluoro-hexanoic acid (PFHxA) (ng/L) |
|---|---|---|---|---|---|---|---|
| Phase III Cell 2 Primary Leachate | 2/6/2020 | **4,420** | **1,160** | **2,520** | **2,160** | **1,710** | **4,380** |
| Phase III Cell 1 Primary Leachate | 2/6/2020 | **3,410** | **978** | **3,010** | **2,340** | **1,530** | **3,940** |
| Phase 3 Underdrain | 2/6/2020 | **30.7** | **28.4** | **40.0** | **137** | **11.9** | **139** |

**The 6 PFAS compounds that were of the highest concentration in the leachate collected from the Primary collection pipes for the two Phase III cells of the landfill were the exact compounds that were found in the underdrain discharge.** This is not a coincidence.

Furthermore, analyzing the concentration of arsenic in monitoring wells that are upgradient vs. those that are downgradient also indicates that the landfill is contaminating the ground and surface water. The following chart was compiled from the data presented in the May 2023 Water Quality Sampling, and Analysis of Trends and Standards Exceedances NEWSVT Landfills Coventry, Vermont. Note that in the text for this report, MW-K1 is stated as being "DOWN-GRADIENT OF LINED LANDFILLS, AND NOT IMPACTED BY UNLINED AREAS A & B (11 WELLS)

| | Total Arsenic ug/L | | | | | |
|---|---|---|---|---|---|---|
| | Upgradient | | Downgradient | | | |
| | MW 706 | SW-6 | MW 703 | SW-7A | **MW K1 | UD#3 |
| Feb-20 | 2.4 | | | | | 4.1 |
| May-20 | 2.5 | | | | | 3.8 |
| May-20 | 2.6 | 1.0 | 4.7 | 6.0 | | |
| Jun-20 | | | | | 19.6 | |
| Aug-20 | 2.8 | | | | 23.1 | |
| Oct-20 | 3.1 | | 5.3 | 4.9 | 11.9 | 4.1 |
| Nov-20 | 2.6 | | | | | |
| May-21 | 2.3 | 1.0 | 5.2 | 5.8 | | 5.5 |
| May-21 | | | 5.4 | | | |
| Oct-21 | 2.0 | | | | | |
| Oct-21 | 2.6 | | 5.7 | 6.7 | | 5.3 |
| May-22 | 1.9 | <1 | 6.0 | 4.7 | | 4.4 |
| Oct-22 | 2.4 | insf. flow | 6.5 | 5.4 | | 5.4 |
| May-23 | 2.2 | <1 | 5.2 | 4.8 | 13.7 | 5.1 |
| May-23 | | | 4.6 | | | |
| Sep-23 | | | | | | 3.7* |
| Sep-23 | | | | | | 3.4* |
| Oct-23 | | | | | | 3.8* |
| Oct-23 | | | | | | 2.9* |
| Nov-23 | | | | | | 3.1* |

| | |
|---|---|
| **MW-K1 is noted as being Downgradient of Lined Landfills, & Not Impacted by Unlined Areas A&B | *Values are in effluent after treatment from PFAS removal system |

As is indicated by the data presented by Waite Heindel, **the level of arsenic in the downgradient samplings is much higher than that in the upgradient samplings. Even after the GAC treatment, the arsenic in the discharge from UD#3 is above the Vermont water quality standards for Arsenic.** These polluted discharges from underdrains have been pouring into the watershed for years, polluting the ground water and the wetlands without enforcement of the Vermont Water Quality Standards. Why was this pollution allowed to continue to flow into the wetlands?

The landfill was designed with the current "100 year storms" in mind back in 1997. Climate change has definitely modified the definition of a 100 year storm, and the current design is not adequate to handle the torrential rains we are experiencing. Inadequate leachate collection systems increase the risk for further contamination. This was made evident in the leachate report from July 2023.

Do not allow NEWSVT to expand the landfill with additional conveyance piping, pumps and sensors, and more complex operations attached to a system that is already contaminating the area. Do not allow NEWSVT to treat leachate in the Memphremagog watershed. Lake Memphremagog is a drinking water source for 175,000 Canadians. Deny this permit amendment.

Environmental Injustice

As the data reported by NEWSVT reveals, less than 7% of the waste disposed of in the Coventry landfill is generated in the Northeast Kingdom. Yet 73% of the waste disposed comes from other areas in Vermont, and 20% is imported from

out of state, even if that waste contains PFAS and other contaminants. Where is the environmental justice? Vermont did pass legislation (S.148), stating that:

> *(3) "Environmental justice" means all individuals are afforded equitable access to and distribution of environmental benefits; equitable distribution of environmental burdens; and fair and equitable treatment and meaningful participation in decision-making processes, including the development, implementation, and enforcement of environmental laws, regulations, and policies.*

Certainly the distribution of environmental burdens is not equitable as mentioned above with only 7% of the waste generated by the NEK. Obey the laws and statutes of the state.

Meaningful public participation has not been allowed. I fail to see how the public could follow the process that has brought us to this point. The state and NEWSVT have been laying the groundwork for a leachate pretreatment facility at the landfill in Coventry for almost 4 years. Granting piecemeal permits, without ever divulging a master plan do not allow meaningful public participation. When asked directly if there was a plan to eventually discharge treated leachate to the Black River, an employee of the Solid Waste Management Division stated that "nothing is off the table". What is the plan?

If the state agencies are bound to obey the laws and statutes passed by the legislation, then it is obvious that any and all pretreatment of leachate should occur nearer the producers of the majority of the waste. The Northeast Kingdom is a sparsely populated, economically depressed area of the state. Do not allow NEWSVT to treat leachate in the Northeast Kingdom. Locate the facility nearer to the population that generates the majority of the waste. Deny this permit.

<u>No Plan for the Future</u>

The current certification for the NEWSVT landfill to continue its operation will need to be renewed in October of 2028. With the current level of contamination detected in the underdrains, monitoring wells, and surface water samplings, isn't there a possibility that their certification will not be renewed? Shouldn't the landfill operation be required to earn the certification renewal by showing they improve their operation to prevent further contamination more than just a standalone GAC system at UD#3? If the next five years reveal increased contamination, would the DEC still renew that permit? Would there be conditions applied to mitigate the contamination? Is there a plan to provide waste management at another site once NEWSVT in Coventry is closed? Any leachate treatment plan should be looking ahead to a more central location, closer to the populations that generate the waste and where future waste management would be located. If this is truly a pilot, and not an excuse to build a permanent facility, use the existing unpermitted system that is already in operation as a "shakedown" (as stated by Peter LaFlamme 12/12/23) for 180 days, get the results and knowledge to create a robust pretreatment facility that:

- Adheres to the Environmental Justice Laws by locating it closer to major population centers. Do not allow NEWSVT to create additional infrastructure for a pilot. Doing so amounts to admitting that the permitted building and conveyance isn't to construct just a pilot, but is the structure required to produce a permanent pretreatment facility.
- Is run by a municipality that will adhere to the monitoring and standards of acceptance defined by the state. Montpelier secured $1 million dollars for a pretreatment facility, they should include it in their much needed upgrades. Why would they provide those dollars to a corporation that stands to profit from it?
- Is of the highest effectiveness in removing contaminants from leachate, including the short chain PFAS and the precursors. Evidence shows that the current technology being used in the "shakedown", known as SAFF, does not adequately remove short chain PFAS compounds. And its post treatment discharge should not ever be discharged into waters that flow into a drinking water source.

Lake Memphremagog is the beating heart of the Northeast Kingdom, and all of our futures depend on these waters that we share with our Canadian neighbors. Lake Memphremagog flows north, and it is the source of drinking water for 175,000 Canadians. Siting a landfill in the Memphremagog watershed was a mistake that was made years ago. With all that we know about corporate enterprise, equipment failures, extreme weather events, and PFAS contamination, let us not make another mistake that further degrades the watershed and the waters of Lake Memphremagog. Deny this permit amendment and locate the leachate treatment in Montpelier, closer to the population generating the majority of the waste, at the municipal treatment facility where it can be operated and monitored properly to protect Vermont's people and wildlife.

Thank you for allowing me to make this comment. Please do the right thing to protect human health and the environment.

**From:** Polaczyk, Amy
**Sent:** Sunday, December 3, 2023 1:24 PM
**To:** Collins, Heather; ANR - WSMD Wastewater
**Subject:** Fwd: Comment, DRAFT AMENDED PRETREATMENT DISCHARGE PERMIT (ENB ID = 23.0022657) for NEWSVT

Amy Polaczyk,
Wastewater Program Manager
802-490-6185

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**From:** Frankie <barry.freed.777@gmail.com>
**Sent:** Sunday, December 3, 2023 12:37:09 PM
**To:** Polaczyk, Amy <Amy.Polaczyk@vermont.gov>
**Subject:** Comment, DRAFT AMENDED PRETREATMENT DISCHARGE PERMIT (ENB ID = 23.0022657) for NEWSVT



Greetings,

I would like to provide comments on the DRAFT AMENDED PRETREATMENT DISCHARGE PERMIT (ENB ID = 23.0022657) for NEWSVT. I have a number of concerns about this permit.

First, Vermont is allowing a private corporation to design and install a system that will impact the health of the environment and the people of our state. The state should be dictating what technological systems are utilized and should have operational control and management over the facility. If control is left to a private corporation (which has a monopoly on this service), they could easily expand to import leachate from other states, making a profit from taxpayers' dollars and further contaminating the rural Northeast Kingdom.

Second, leachate treatment (for PFAS) should be managed by a municipal wastewater treatment facility that has been upgraded to remove all contaminants. Montpelier received federal funds of $1,000,000 (taxpayer money) which they gave to Casella to build the leachate treatment facility in Coventry, rather than to upgrade their own facility, which is very much needed and would have provided a greater benefit to all those taxpayers downstream of Montpelier as leachate is not the only pollutant in the influent they process and discharge into the Winooski River.

Third, the watershed of an international lake that is a drinking source for 175,000 Canadians is NO PLACE for a landfill leachate treatment facility.

Fourth, the proposed leachate treatment system of NEWSVT will not remove all PFAS components from the leachate.

Finally, with climate change, 100-year storms are becoming much more frequent. Hurricane Irene was in 2011, and this past summer 2023 was another 100-year storm. The landfill was not designed for the frequency of these extreme rain events. Locating a leachate treatment facility adds many more points of failure that will compromise the safety of the environment in extreme weather. If sensors and pumps fail, leachate will easily pour into the Black River and into South Bay. This happened in May of 2021 in Bethlehem NH when over 154,000 gallons of leachate spilled into the Ammonoosuc River. This was the second time a failure of this type occurred in Bethlehem NH. There was a similar event in 2018.

Sincerely,
Liza Frankie Nanni
Winooski, VT

**From:** Hubbs, Steven
**Sent:** Friday, December 8, 2023 9:39 AM
**To:** ANR - WSMD Wastewater
**Subject:** NPDES Discharge Permit #3-1503

Good morning:
Can you tell me when discharge permit #3-1503 for the Bennington Downtown State Office Building expires? A copy of any correspondence since 2015 would be appreciated as well.

Thanks,
Steve

**Steven A. Hubbs** | Environmental Health & Safety Coordinator
Vermont Buildings & General Services
133 State Street | Montpelier, VT 05633-5801
802-272-6456
bgs.vermont.gov

**From:** sylvia dodge <sdcarmelsylvia@gmail.com>
**Sent:** Wednesday, December 13, 2023 9:38 AM
**To:** ANR - WSMD Wastewater
**Subject:** PUBLIC comment - leachate project
**Attachments:** 2 DEC.docx

**Follow Up Flag:** Follow up
**Flag Status:** Flagged



Hello - Attached are my comments to be included in the record in regard to the permitting of the pilot leachate treatment project at the Casella-owned landfill in Coventry. - Sylvia C. Dodge

**COMMENTS AND QUESTIONS to be included in the "public comment" for PN23.0022657 – permit for pilot leachate treatment project at the Casella-owned landfill in Coventry.**

I attended the Dec. 12 public comment meeting held at the Gateway Center in Newport via remote access through the internet.

--100 percent of the comment given was against approving the permit to allow the pilot project in the Lake Memphremagog Watershed. I agree with the comments and suggestions (people want the pilot project sited in central Vermont, people worry about the environmental justice of continuing to use the Lake Memphremagog Watershed as Vermont's dump, people worry about the experimental nature of the pilot project, people think the State of Vermont needs to be responsible for the state's solid waste system, not a private for-profit company, etc.)

My comments and questions are about the procedure used by the Department of Environmental Conservation, which has allowed the pilot project to commence in advance of public comment and permit approval.

Peter Laflamme told the audience that Casella is allowed to start a project in advance of permitting because NEWS-VT's current permitting "does not preclude removing pollutants" and Casella is allowed to put cement blocks infused with condensed PFAS chemicals into the landfill in advance of the pilot project permit approval because they have an existing solid waste permit.

The following are my questions. I hope to see answers in your public comment report.

1. Please explain why a public comment period, indeed any actual permit review, is necessary when Casella has been allowed to start an environmentally sensitive project in advance of permitting.
2. Was the scenario ever described to the public – that Casella would be allowed to start the pilot project before public comment and permitting?
3. Is it the norm for DEC to allow sensitive projects in Vermont to begin before public comment and final permitting?
4. What percentage of DEC projects in Vermont are allowed to begin before public comment and final permitting?
5. What percentage of DEC projects are permitted when public comment is overwhelmingly opposed to the project?

Thank you for your attention to my questions.

Sincerely,

Sylvia C. Dodge, Lyndon

**From:** Holly Bull <wallbull3@gmail.com>
**Sent:** Thursday, December 14, 2023 6:38 PM
**To:** ANR - WSMD Wastewater
**Subject:** PN23.0022657/ (permit#3-1406)



To Whom It May Concern,

The time has come for the State of Vermont to stop and reexamine the careless polluting of Lake Memphremagog. The members of D.U.M.P. have been working tirelessly to educate, persuade and outright beg the Department of Environmental Conservation to take corrective action.

After learning the latest facts and details about this situation, from a December 7th public information meeting, it is clear; enough is enough.
It is incomprehensible that the good people of the Northeast Kingdom should be forced to deal with over 90% of other counties and states' waste when they only produce 7% of that waste.

But the first step is to deny the permit for a pilot leachate treatment station in the Lake Memphremagog watershed. Plain and simple. If there were **no** other options available, then that would be a different story, but there **are** other viable options. These alternatives need to be seriously considered.

NO permit should be issued to treat or dispose of leachate anywhere in the international watershed of Lake Memphremagog. Pour l'amour de Dieu (For goodness sakes), it's the drinking water for hundreds of thousands of people. Not to mention the fish, birds, and other animals that call Lake Memphremagog their home. Have you seen the pictures of the cancerous brown bullheads?

Lake Memphremagog can be saved, it can be spared, it can be restored to the magnificent lake that it is, but that process must start now.

Sincerely,
Holly B. Bull, property owner, Charleston, Vermont

**From:** Kate Wolff <wolffbrain@gmail.com>
**Sent:** Friday, December 15, 2023 5:10 PM
**To:** ANR - WSMD Wastewater
**Subject:** Coventry Landfill.



Enough is enough. Please Please do the right thing for the NEK and for the Canadian citizens who drink the waters of Lake Memphremagog. Do the right thing for the crown jewel natural resource of the NEK and Quebec before it is too late and we are forced into a superfund cleanup when it is too late. The siting of this landfill was a mistake to begin with and any expansion of the use for "treating the polluted Leachate on site os unconscionable.

It is unfathomable to me that the ANR, the State of Vermont allows the for profit Corporation to dictate its terms on managing and treating the leachate onsite and dumping it back into the wetlands of the Black River and into South Bay. It is the responsibility of the ANR to protect us.

Please take the lead in managing this responsibly and with environmental equity to our region.

Kate Wolff.

Brownington, Vt 05860.

**From:** mike bald <choosewiselyvt@gmail.com>
**Sent:** Sunday, December 17, 2023 9:25 PM
**To:** ANR - WSMD Wastewater; Polaczyk, Amy
**Subject:** comment regarding Permit #3-1406.2304



Thank you for the opportunity to comment.

I am concerned that the PFAS issue, for Vermont statewide and at the Coventry landfill in particular, has become a potential revenue stream in the eyes of some, much like the debacle with mitigation measures relevant to global warming.

Personally, I need guarantees - in the form of enforcement measures - to ensure that a private, for-profit corporation will not do what so many other for-profit corporations have done. The Coventry landfill is located where it is, it has the issues and problems that it has, and it will continue to face challenges into the future, because of short-sighted decisions we have made in the past. I would like to see us avoid repeating our own history. Corporations created PFAS compounds, avoided sharing the knowns about their associated risks, marketed the products tenaciously, and essentially contaminated much of earth's surface and its fresh water supplies. Now a new set of corporations seeks to profit from treating the toxins, addressing the issue but again with a short-term solution, as far as I can tell.

Shouldn't corporate America be picking up this tab, in full?

I do agree that we need to do everything possible to remove PFAS compounds from our water and soils. And I do agree that this pilot project is just one piece of a larger puzzle. But where is the rest of the puzzle? Where is the emphasis on cutting PFAS contamination from its source, from manufacturers? Where is the insistence on eliminating PFAS compounds from our consumer products and our agricultural system?

The Coventry landfill plan has always had shortcomings, but the issue with "forever chemicals" is unique. As we know from the litigation in West Virginia in the early 2000s, DuPont and other corporations recognized the risks to humanity posed by PFAS compounds. Yet production continues, even to this day under new company names and with related but distinct formulas.

EPA has a roadmap process underway.

EPA does online presentations and invites public participation.
But there is no response to email messages. None.
Vermont has a PFAS Roadmap (December, 2023), but the language is weak and wishful.
That we should encourage the EPA to get serious on PFAS?
Please, spare me the sensitivity.
And why do we yet again, in the Vermont Roadmap document, avoid the issue of pesticides with all their secret ingredients?
A state registration program does Nothing to reduce pesticide usage; the willpower to reduce usage simply does not exist.
We know pesticides come with PFAS compounds in the formulation, yet we do nothing.
We let time go by, waiting for a later opportunity to profit, while everyday citizens deal with the health impacts.

I have PFAS compounds in my well water here in Royalton.
I did not put them there, but I am forced to deal with them.
The same applies to the situation at the Coventry landfill.
The people are the ones who will pay in the end.... even as corporations find another angle for profit generation.
This permit and project require much stronger oversight than what I saw in writing, and if profit margins are the ultimate goal, I cannot support it. I hope that subsequent actions undergo much more stringent scrutiny.

Thank you for taking my comment,
Mike

--
Michael Bald
*Got Weeds?*
*http://choosewiselyvt.wordpress.com*
Royalton, VT

**From:** Walter Medwid <wmedwid@gmail.com>
**Sent:** Monday, December 18, 2023 10:42 AM
**To:** ANR - WSMD Wastewater
**Subject:** Permit #3-1406.2304



Since the Coventry landfill is scheduled to close in five years time, investing $1,000,000 of public dollars in a facility destined to close is simply foolish. Is there any indication that the Secretary will renew the permit at this point in time?

And since the landfill will close and new qualities of leachate will be generated at landfills elsewhere in the state, shouldn't any pretreatment facility be in proximity to those new leachate generating facilities? And wouldn't other state objectives be met (reduction in fossil fuel usage and greenhouse gas emissions) by centrally locating where far greater amounts of garbage is generated, where leachate is being generated and where leachate should also be treated. Pre-treatment of toxics is the right thing to do however it needs to be done at a location that makes sense...environmentally, logistically and efficiently.

The Coventry landfill site has been called arguably, one of the worst sited landfills in this nation. Why would we continue to invest infrastructure in a precarious location?

Why also is our solid waste program seemingly driven by a corporate entity rather than state agencies?

Why are we allowing a technology of foam fractionation, known to be inadequate on several levels, serve as the prototype operation? Is it the most effective technology or the least expensive technology for pre-treatment?

How can Vermont make a good decsion about this piece of the solid waste puzzle without a full build out on what our actual plan is? The absence of the full build out makes any decision reckless.

Finally, this part of the state has served effectively as the toilet for Vermont and neighboring states wastes. We are bearing the brunt of a leaking landfill contaminating ground waters. Environmental justice demands that other regions of the state now do their fair share.

Walter Medwid, Derby

**From:** Jim Campbell <jimmyc@jimcampbellrealestate.com>
**Sent:** Monday, December 18, 2023 1:05 PM
**To:** ANR - WSMD Wastewater
**Subject:** Land fill in Coventry/Casella/NewsVT



To whom it may concern.

It is with the utmost concern that I find it extremely necessary to share my thoughts with the ongoing destruction and deterioration of Lake Memphremagog.

Having lived in the NE Kingdom my entire life of 71 years it brings me great sadness to see what is happening with the lake I so love. How this landfill was ever allowed to expand and for that matter exist being situated between the south bay and the Black river that feeds directly into the lake is just mind boggling. Now for the state to even consider allowing the treating of leachate with an unproven outcome simply amazes me.

Speaking from the heart I must tell you that the vast majority of the land fill is situated on what once was our home farm so yes it is absolutely personal when I see what the state is allowing to take place.
I have enjoyed each and every water sport imaginable on our lake and have personally owned a boat from the age of 12 so I can tell you 1st hand what I have observed especially in the last 10 to 20 years. The south bay for example was once an area where we set up slalom courses due to the clear and calm water not to mention the fact that there was hardly any weed growth so it was great for skiing and more. Now the entire bay is so full of various types of weeds you can almost walk across the water in the middle of the summer. We can no longer boat there due to having to constantly lift the motor and pull away the weeds. I can honestly say as the the landfill has been allowed to expand it has only gotten worse.

To my knowledge the treatment being considered is still questionable and do we really want to risk the chance of more destruction of the water quality and the eventual ruination of the lake? The residents of the NE Kingdom are baffled as to why the entire state's garbage is being trucked to the area not to mention other state's as well. At what point do we put an end to this madness. Bethlehem New Hampshire has had it's share of problems related to trash and one would think we would learn something from their experience. It is no secret that the state of VT has shown total disrespect for our Canadian neighbors as well and with so many people relying on the water quality how can we continue to ignore their concerns?

To say the least we should be looking more closely at the Montpelier area if the treatment of leachate is going to continue. Interstate 89 runs straight down from Chittenden county where the bulk of Vermont's garbage is generated and instead of destroying our secondary roads with all the truck traffic why would we not use the interstate system when it is so convenient and built specifically for heavy vehicles. I could go on and on with a number of reasons as to why this needs to be stopped but for the state to continue to allow a conglomerate like Cassella destroy the life we have so enjoyed for many years is just plain wrong.
I always thought of Vermont as the most environmentally focused state in the US but with what is being allowed to continue in Coventry it is abundantly clear that politics and money have once again shown what rules the day. For anyone to think that the company is in any way concerned for the environment is laughable. By controlling all the waste they also control what they can charge and I know from the bills I receive the increases continue and at some point people are just going to start dumping on the side of the road.

In closing I sincerely hope that the state will start looking out for it's residents and concentrate on new locations and better solutions for waste management.

Sincerely

Jim Campbell

Newport,Vermont

**From:** Sylvia Knight <sknightinvt73@gmail.com>
**Sent:** Monday, December 18, 2023 4:21 PM
**To:** Polaczyk, Amy
**Subject:** NPDES permit 3-1406: Draft Pretreatment Discharge Permit. New England Waste Services, Inc. Project ID No. WY06-0020
**Attachments:** Comments-NEWSVT-NPDES-permit3-1406-121823.pdf

**Follow Up Flag:** Flag for follow up
**Flag Status:** Flagged



Hello, Amy,

I am attaching my comments on NPDES permit 3-1406, Draft PreTreatment Discharge Permit.

Earth Community Advocate & Researcher
Burlington, VT 05408
sknightinvt73@gmail.com
pronouns: she, her

We cannot solve our problems with the same thinking we used when we created them. Albert Einstein.

"We aren't going to have peace on Earth until we recognize the basic fact of the interrelated structure of all reality."

Martin Luther King, Jr.

Comments on NPDES permit 3-1406:

TO: Amy Polaczyk
CC: Senator V. Lyons; Senator P. Baruch; Rep. R. Hooper
FROM: Sylvia Knight, VT Pesticide & Poison Action Network
13 Claire Pointe Rd. Burlington, VT 05408
DATE: 18 December 2023
RE: NPDES permit 3-1406: Draft Pretreatment Discharge Permit.
New England Waste Services, Inc. Project ID No. WY06-0020

First, some observations regarding Vermont's relationship with water:

A. Our planning and regulatory processes tend to regard water as *separate* from humans. That's simply not biologically true. We are intimately connected with Earth's hydrological system. We share the water with many and with future generations.

B. State policy still treats water bodies as receptacles for our waste. That's contrary to the Clean Water Act. Witness the dozens of combined sewer overflows and other discharge events recorded each month by ANR/DEC. Consider "mixing zones" and "waste management zones." Clean water?

C. State policy has expected lakes and rivers to assimilate toxins without measurable harm to life and failed to consider effects of low concentrations and chemical mixtures. We are just slowly waking up to the danger of this policy.

I join members of Don't Undermine Memphramagog's Purity (DUMP) in opposing approval of NPDES permit 3-1406, Draft Pretreatment Discharge Permit for the following reasons.

1. NEWS-VT has constructed the pilot PFAS removal project *without approval*, in flagrant disregard for the required public review process, and should NOT be allowed to continue operation of that facility.
2. ANR/DEC must not reward NEWSV for violating VT law and the Clean Water Act in their premature construction of a pilot project.
3. They have chosen methods of PFAS removal that are inadequate, allowing toxic PFAS to continue contaminating the international watershed of Lake Memphramagog, endangering human and ecological health for years to come.
4. ANR's allowing this pilot project to continue shows crass disregard for US and Canadian citizens' concerns about serious contamination of their drinking water. This project must cease operation.
5. NEWSVT has chosen to encase the PFAS in concrete and re-introduce it into the waste stream. This cannot be a long-term solution and must cease. Permanent encapsulation and sequestration methods must be determined in a public process to consider location nearer to centers of waste generation.
6. Given the relatively short time this landfill will continue to operate, new facilities must be built closer to where the bulk of the waste is generated; that is Chittenden and Rutland Counties. Newport and Coventry generate less than 17% of the trash

brought to the NEWSVT landfill. PFAS generating businesses must find ways to eliminate these compounds from their waste streams.

7. I live downstream of Montpelier, VT at the mouth of the Winooski River. A friend of mine living adjacent to the river uses his canoe in those waters. He has offered his canoe for my use to enjoy the river, but I do not want exposure to PFAS during recreation. I do not swim in Lake Champlain. Any leachate delivered to Montpelier releases PFAS, heavy metals and priority pollutants to the Winooski River, which move downstream to Lake Champlain between Burlington and Colchester. PFAS were detected in significant amounts in the lower Winooski River in 2019.

8. Lake Champlain is an international water body, providing drinking water for approximately 145,000 of US and Canada residents. Vermont cannot continue to contaminate this water body with PFAS (thousands of them), heavy metals and priority pollutants, ignoring its responsibility for protecting international waters pursuant to the Basel Convention.

9. Montpelier received federal funds (our tax dollars) to provide much-needed upgrades their wastewater treatment facility; but they 'gave' these funds to Casella for their premature, un-permitted project. I object to this surrender of tax dollars to a corporation acting without regard for legal processes, precautionary science and the Clean Water Act.

10. ANR/DEC must not surrender its regulatory authority for protecting water resources needed for all life to a private corporation concerned with its own profit margin.

11. I support the calls from Conservation Law Foundation, VT Natural Resources Council and Zero Waste for regulatory enforcement against NEWSVT for disregarding the permit process.

12. Please *deny* draft NPDES Pretreatment Discharge permit #3-1406.

**From:** Gail Rose <grosevt@gmail.com>
**Sent:** Monday, December 18, 2023 6:59 PM
**To:** ANR - WSMD Wastewater
**Subject:** In opposition to the proposed pilot leachate treatment facility at the Coventry landfill Permit #3-1406.2304.



Dear Agency Administrator,
I have serious concerns about the "proposed pilot" leachate treatment facility to be built on the Coventry landfill, which I have outlined below:

- **Lack of Transparency:** Neighbors in Coventry and surrounding lake-adjacent communities of Derby and Newport have not been notified that the treatment facility is operational now, and they have not been asked to participate in the conversation about whether they approve of it. A final permit has not been issued, yet actions are currently taking place to install this treatment facility.

- **Lake Water Quality:** Memphremagog is a beautiful, pristine lake - home to countless species of aquatic life that are essential to our ecosystem. It supports human recreational activities that contribute to the tourism industry, which Newport and surrounding communities rely on for their economic stability. Perhaps most importantly, it is the drinking water source for our Canadian neighbors at the north end of the lake. Tragically, positive tests for PFAS and other contaminants indicate the water quality of this precious resource is "Impaired."

- **Logic:** That Vermont's ONLY landfill and proposed leachate treatment facility is located in Coventry, VT is absurd: 1) it is in a far corner of the state, requiring wasteful trucking every day from regions as far as 200 miles away, 2) it is situated in the watershed of one of Vermont's largest lakes, and 3) it is a region of the state that produces less than 7% of the waste that is deposited in the landfill. Furthermore, the region is economically disadvantaged. This is ENVIRONMENTAL INJUSTICE. The landfill and leachate treatment facility should instead be sited in Montpelier, closer to the source of the waste, more centrally located to the rest of the state, and far from a lake or major source of drinking water.

- **Undue control of a private corporation:** Why should a private corporation have the power to design and install a system that will impact the health of the environment and people of the state of Vermont? It's the ***state*** that should be dictating what technological systems are utilized, and the state should have operational control and management over a facility that poses a grave danger to the environment. If control is left to a private corporation, they could easily expand to import leachate from other states, making a profit and further contaminating the rural Northeast Kingdom.

- **Future risk:** With climate change, 100-year storms are becoming much more frequent. Hurricane Irene was in 2011, and this past summer 2023 was another 100-year storm. In July, the level of leachate collected below the secondary liner of the landfill exceeded the allowed flow. *The landfill was not designed for the frequency of these extreme rain events*. If a leachate treatment facility were to be located there, it would add many more points of failure that will further compromise the safety of the environment in extreme weather. If sensors and pumps fail, leachate will pour into the Black River and into South Bay. This happened in May of 2021 in Bethlehem, NH when over 154,000 gallons of leachate spilled into the Ammonoosuc River.

For the above reasons, *we cannot allow any further contamination*. There must be a permanent moratorium on the treatment and discharge of leachate (treated or untreated) anywhere within the Lake Memphremagog Watershed.
I urge you to locate the leachate treatment in Montpelier, closer to the population generating the majority of the waste, at the municipal treatment facility where it can be operated and monitored properly to protect Vermont's people and wildlife.
Respectfully,
Gail Rose

**From:** James Murray <ipam2012@gmail.com>
**Sent:** Tuesday, December 19, 2023 12:48 AM
**To:** Polaczyk, Amy; ANR - WSMD Wastewater
**Subject:** Public comments for permit # 3-1406 (amendment) - #3-1406.2304
**Attachments:** public_comments_permit_3-1406__Dec_18_2023.pdf; Petition · Say No to the discharge of leachate (containing PFAS) into Lake Memphremagog · Change_org.pdf; Petition_Signatures_20231217Change_org.pdf



December 18, 2023

**Subject: Public comments for permit # 3-1406 (amendment) - #3-1406.2304**

Att: Agency of Natural Resources, Department of Environmental Conservation, Watershed Management Division

**Comments From: James Murray and Diane Matthews Murray who have been residing on the shores of Lake Memphremagog, Quebec, Canada since 1974.**

Greetings!

Thank you very much for the invitation to submit public comments.

**Lake Memphremagog and its watershed, the drinking water for 175,000 people in Canada, citizens and wildlife all need to be protected from contamination. In the amendment to the permit # 3-1406, please incorporate a permanent moratorium on the treatment and discharge of leachate (treated or untreated) anywhere within or into the Lake Memphremagog watershed and the lake.**

**We also have additional comments to support a permanent moratorium; the comments include two e-petitions drafted by James Murray, as follows:**

**1. The first petition https://chng.it/v7jNbKxXqg includes artwork by James Murray. Copies of the petition and signatures are attached with this submission.**

**2. The second petition (now closed) has 162 signatures and has been tabled by the government of Quebec at the national assembly in Quebec city on December 8th, 2023.**
https://www.assnat.qc.ca/Media/Process.aspx?MediaId=ANQ.Vigie.Bll.DocumentGenerique_195163&process=Original&token=ZyMoxNwUn8ikQ+TRKYwPCjWrKwg+vIv9rjij7p3xLGTZDmLVSmJLoqe/vG7/YWzz

https://www.assnat.qc.ca/en/exprimez-votre-opinion/petition/consulter-petition/index.html

The following is a translated copy of the petition currently tabled at the national assembly of Quebec:

Petition title: "Discharge of American leachate into Lake Memphremagog and its watershed"

WHEREAS all pollutants, including PFAS called "forever chemicals", are not removed from treated leachate effluent (the "garbage juice") from landfills;

WHEREAS when the treated leachate is discharged into bodies of water, it presents a danger to human and animal health, and to drinking water;

WHEREAS a permit was issued for the construction of an experimental plant for the pretreatment of leachate in Vermont, to be located near Lake Memphremagog;

WHEREAS the drinking water of 175,000 Quebecers and the well-being of all life dependent on Lake Memphremagog are threatened.

We, the undersigned, ask the government of Quebec to intervene with the government of Vermont to ensure that American “treated” leachate water is never discharged into Lake Memphremagog and its watershed.

3. Artwork by James Murray: https://www.militarypoisons.org/free-materials

Thank you for viewing our comments! A signed copy of this submission is also attached.

Sincerely,
James Murray and Diane Matthews Murray,
Georgville, Quebec, J0B 1T0
CANADA

December 18, 2023

Subject: Public comments for permit # 3-1406 (amendment) - #3-1406.2304

Att: Agency of Natural Resources, Department of Environmental Conservation, Watershed Management Division

Comments From: James Murray and Diane Matthews Murray who have been residing on the shores of Lake Memphremagog, Quebec, Canada since 1974.

Greetings!

Thank you very much for the invitation to submit public comments.

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https://www.assnat.qc.ca/en/exprimez-votre-opinion/petition/consulter-petition/index.html

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*WHEREAS when the treated leachate is discharged into bodies of water, it presents a danger to human and animal health, and to drinking water;*

*WHEREAS a permit was issued for the construction of an experimental plant for the pretreatment of leachate in Vermont, to be located near Lake Memphremagog;*

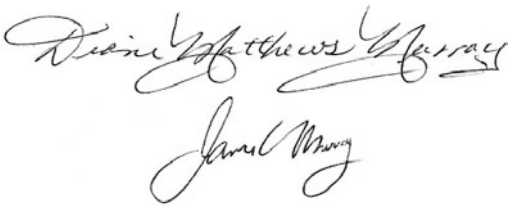
*WHEREAS the drinking water of 175,000 Quebecers and the well-being of all life dependent on Lake Memphremagog are threatened.*

*We, the undersigned, ask the government of Quebec to intervene with the government of Vermont to ensure that American "treated" leachate water is never discharged into Lake Memphremagog and its watershed.*

**3. Artwork by James Murray:** https://www.militarypoisons.org/free-materials

Thank you for viewing our comments!

Sincerely,
James Murray and Diane Matthews Murray,
Georgville, Quebec, J0B 1T0
CANADA



**Welcome back to Change.org!** A new petition wins every hour thanks to signers like you.

**Petition Strength**

5 Room to improve

**Write a longer description**

Add a personal story, as well as relevant facts and statistics.

Edit description

**Add Category tags**

Adding more tags will help people find your petition.

Add category tags


# Say No to the discharge of leachate (containing PFAS) into Lake Memphremagog

Started June 29, 2023

**248**
Signatures

**500**
Next Goal

**74 people** signed this week

Share this petition

## Why this petition matters

Started by James Murray

Dear Governor Scott,

I'm signing this petition because I'm very concerned about the future of Lake Memphremagog.

Not all pollutants including PFAS (also known as "Forever Chemicals") are removed from treated leachate effluent (garbage juice) that derives from garbage deposited at landfills.  When treated leachate is discharged into bodies of water, it presents danger to human and animal health, and drinking water. The government of Vermont must ensure that leachate or leachate effluent is never discharged into northerly flowing Lake Memphremagog, or its tributaries.

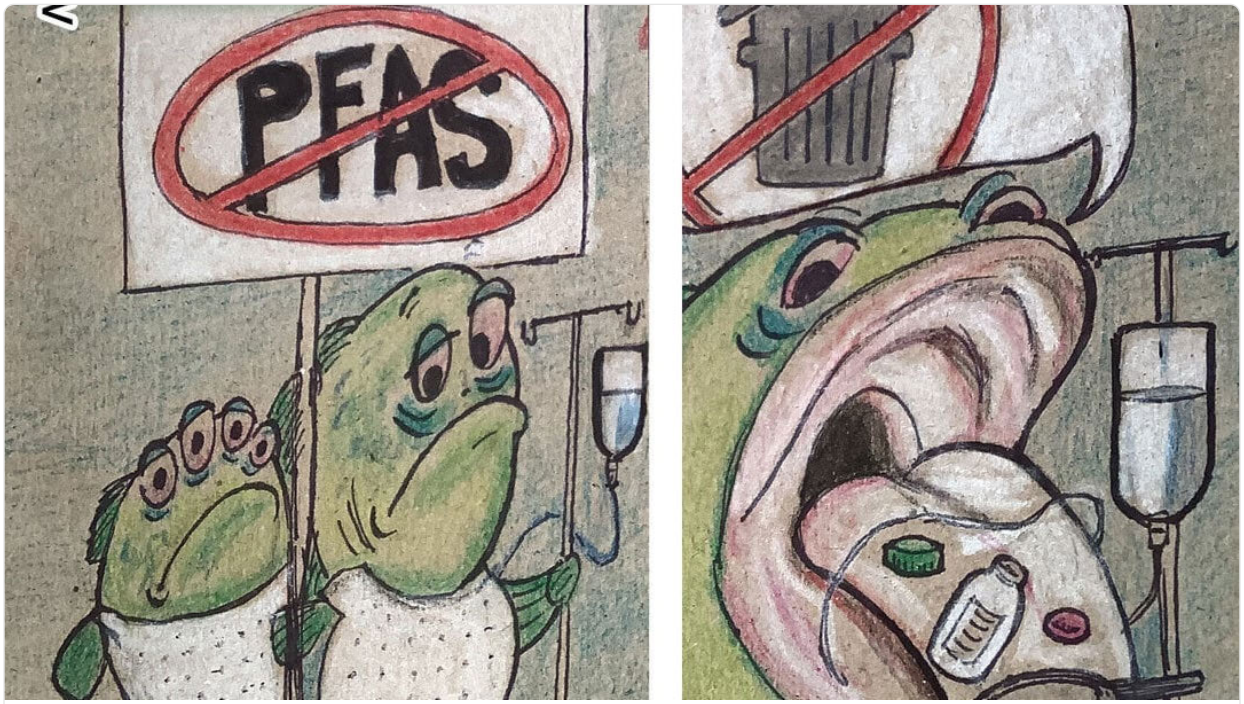
For more information about the ongoing concern for International Lake Memphremagog (US and Canada, its watershed and the treated leachate), visit the following web sites:

nolakedump.com

www.memphremagog.org/en/lettre_opinion_coventry_en
www.memphremagog.org/en/communique_dump

Thank you for your commitment to protect Lake Memphremagog for the well-being of all life and the drinking water for 175,000 Canadian neighbors, now and for the future.

Sincerely,




**Lake Memphremagog/it's watershed need your help again!! Public hearing Dec. 12 & comments**

Greetings!  Thank you very much for signing the petition https://chng.it/v7jNbKxXqg and if you have provided comments! Please share this message. In the coming days, the petition will be presented to the Vermont government (Agency of Natural Resources - Department of Environmental Conservation) and Governor of Vermont. Now, lake Memphremagog and it's watershed need your help again!! Oppose the permit for a Leachate Treatment System in th...

**James Murray**
1 week ago

**More updates**

## Reasons for signing

**74 people** signed this week

This is a serious issue. Risking the health of a lake, a reservoir and thousands of people is absurd. For what? Apparently for the continued profit motive of a monopolistic privately owned landfill. This is an unsafe practice

2 · Share · Tweet

**Tanya Mueller** · 5 months ago

I am concerned with toxins spewing into lake Memphremagog from the coventry land fill {garbage dump} on the American side. The fish have been reported to have cancer. Sherbrooke and Magog drink the water from this lake, and so many of … **Read more**

1 · Share · Tweet

**Natasha Arnold** · 6 days ago

I live in Newport and the landfill is contaminated not only the waters but the air as well!!!

0 · Report

**Effie Browm** · 3 months ago

Leachate and this landfill in Coventry are an imminent threat and danger to this drinking water reservoir, Lake Memphremagog.

0 · Report

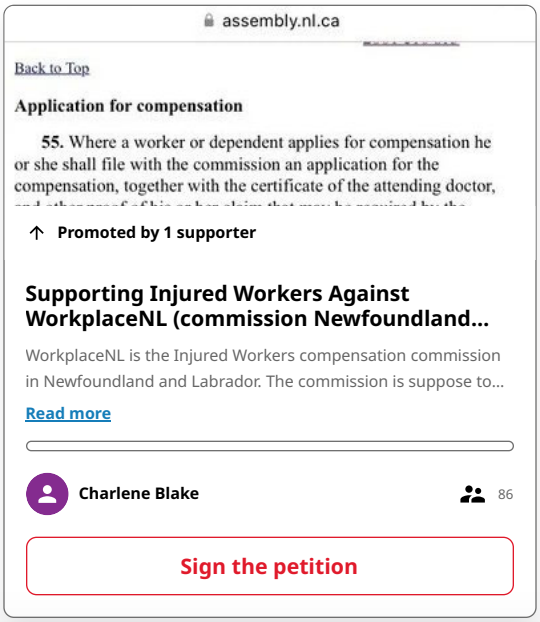
**Sandra Marshall** · 3 months ago

I care about the quality of the water for drinking and swimming. It needs to be protected for our children's sakes.

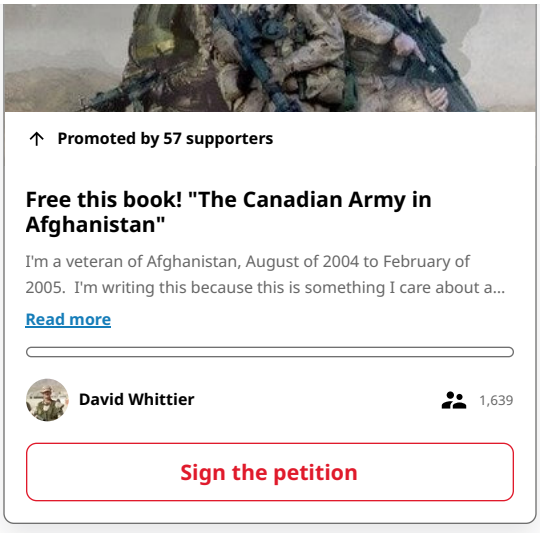
0 · Report

**View all reasons for signing**

## Petitions promoted by other Change.org users




**74 people** signed this week



| ÿþName | City | Province | Postal Code | Country | Signed On |
|---|---|---|---|---|---|
| James Murray | Georgeville | | "" | Canada | 2023-06-30 |
| Teresa Gerade | Newport | Vermont | 05855 | US | 2023-07-08 |
| Pam Ladds | Newport | Vermont | 05855 | US | 2023-07-08 |
| Christina cotnoir | East Providence | Rhode Island | 02914 | US | 2023-07-08 |
| Tania Roussel | Miramichi | | E1V 5X9 | Canada | 2023-07-08 |
| nick robley | Manchester | | M43 | Canada | 2023-07-08 |
| Davis Cadieux | Red Deer | | T4N | Canada | 2023-07-08 |
| Lenore Black | Markham | | L3R | Canada | 2023-07-08 |
| Theresa Smith | Arden | | K0H 1B0 | Canada | 2023-07-08 |
| Tammi Poulin | Newport | Vermont | 05855 | US | 2023-07-08 |
| Peggy Stevens | Newport | Vermont | 05855 | US | 2023-07-08 |
| Jackie Monfette- | Newport | Vermont | 05855 | US | 2023-07-08 |
| Polly Jones | Stratford | Connecticut | 06615 | US | 2023-07-08 |
| Lindy Sargent | Orleans | Vermont | 05860 | US | 2023-07-08 |
| Carole O'Connel | Chicago | Illinois | 60660 | US | 2023-07-08 |
| john baarrows | Essex Junction | Vermont | 05452 | US | 2023-07-09 |
| Pascale Bédard | Montreal | | H3G | Canada | 2023-07-09 |
| Chris Jacobs | Albany | Vermont | 05827 | US | 2023-07-09 |
| Michel Desroche | Maple Ridge | | "" | Canada | 2023-07-09 |
| Brian Dobbin | Burnaby | | V5B 4S4 | Canada | 2023-07-09 |
| Andrea Ellefson | Regina | | S4R | Canada | 2023-07-09 |
| Tanya Mueller | Stanstead, Queb | | J0B3E0 | Canada | 2023-07-10 |
| Andrew Howell | Vancouver | | V5Z | Canada | 2023-07-10 |
| Kelina Thomas | Yellowknife | | "" | Canada | 2023-07-10 |
| Kady D | Brampton | | L7A | Canada | 2023-07-10 |
| Bea Hergesheim | Vancouver | | V6A | Canada | 2023-07-10 |
| R Urquhart | Cornwall | | K6H | Canada | 2023-07-10 |
| Stacey Boomhov | Stanstead | | J0B | Canada | 2023-07-10 |
| julie st-hilaire | Sherbrooke | | J1L | Canada | 2023-07-10 |

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|---|---|---|---|---|---|
| Judy Bruce | Wasaga Beach | | L9Z 2B1 | Canada | 2023-07-10 |
| Shawna Roberts | Toronto | | M4K | Canada | 2023-07-10 |
| Jamie Bell | Toronto | | M5A | Canada | 2023-07-10 |
| susan kiley | Newport | Vermont | 05855 | US | 2023-07-10 |
| Brittany Neadow | Calgary | | T3G | Canada | 2023-07-10 |
| Marina NW | Toronto | | M9N 1J8 | Canada | 2023-07-10 |
| Pat Rae | Calgary | | T2p1j6 | Canada | 2023-07-10 |
| Jen Hubert | Yellowknife | | X1A | Canada | 2023-07-10 |
| Ann Lembo | Albany | Vermont | 05820 | US | 2023-07-10 |
| karo hill | Vancouver | | V5V | Canada | 2023-07-10 |
| Corinne Boomhc | Stanstead | | J0K | Canada | 2023-07-10 |
| Okbit Mehari | Vancouver | | V5L | Canada | 2023-07-10 |
| Hélène Aubé | Shawinigan | | G9N | Canada | 2023-07-11 |
| armand bergeror | SHERBROOKE | | J1J 3Z2 | Canada | 2023-08-25 |
| Erica Rhodes | Stanstead | | J0B 3E2 | Canada | 2023-09-06 |
| Elin Gustafson | Georgeville | | J0B 1T0 | Canada | 2023-09-06 |
| Dan Murray | London | | N5Y | Canada | 2023-09-13 |
| Elsa Mongeau | Val-David | | J0T | Canada | 2023-09-14 |
| Vini Patel | Roslyn | New York | 11507 | US | 2023-09-14 |
| Andrew Floyd | "" | | "" | US | 2023-09-14 |
| Adrianne Marchk | east saint louis | | 62203 | US | 2023-09-14 |
| Kerry Piest | "" | Illinois | "" | US | 2023-09-14 |
| Anna Beeson | Christiansburg | | 24073 | US | 2023-09-14 |
| Alexander Trosh | Atlanta | | 30301 | US | 2023-09-14 |
| Miranda Bullard | Somersworth | | 03878 | US | 2023-09-14 |
| Sovanna Shehat | Henrico | | 23294 | US | 2023-09-14 |
| bela groce | pensacola | | 32503 | US | 2023-09-14 |
| Justin Lawson | Sacramento | | 94203 | US | 2023-09-14 |
| Eleanor Ward | Collingwood | | L9Y | Canada | 2023-09-14 |
| Mary Williams | Ogden | | JOB | Canada | 2023-09-14 |

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|---|---|---|---|---|---|
| Shirley Elliott | Montreal | | H4A 3N6 | Canada | 2023-09-14 |
| ken Elliott | Ogden | | J0B3e3 | Canada | 2023-09-14 |
| Ian Roberts | Toronto | | M1M 3E1 | Canada | 2023-09-14 |
| Sandra Marshall | Ottawa | | K1Y 3Y4 | Canada | 2023-09-15 |
| Arthur Lovelace | Yarker | | K0K 3N0 | Canada | 2023-09-21 |
| John Barrows | Essex Junction | Vermont | 05452 | US | 2023-09-22 |
| Effie Browm | Derby | Vermont | 05829 | US | 2023-09-22 |
| jay walsh | Newport | Vermont | 05855 | US | 2023-09-24 |
| Alexandra Scott | Georgeville | | J0B 1T0 | Canada | 2023-10-06 |
| Véronique Allard | Georgeville | | J0B 1T0 | Canada | 2023-10-06 |
| Claire Fallon | Candiac | | J5R5P7 | Canada | 2023-10-06 |
| Jonathan Duham | Fitch Bay | | J0B1T0 | Canada | 2023-10-06 |
| Deanne Cyr | Montreal | | H3J | Canada | 2023-10-06 |
| REAL ROBINSC | Magog | | J1X | Canada | 2023-10-06 |
| Diane Blain | Georgeville | | J0B1T0 | Canada | 2023-10-06 |
| Céline Pelletier | Canton Stanstea | | J1X3W2 | Canada | 2023-10-06 |
| Chloe Johnson | Georgeville | | J0B | Canada | 2023-10-06 |
| Louise Lamarche | Canton de Stans | | J1x3w4 | Canada | 2023-10-06 |
| Guy Parenteau | Geogeville | | J0B1T0 | Canada | 2023-10-06 |
| Carmin Pomerle | Magog | | J1X2H5 | Canada | 2023-10-06 |
| Marie-Helene Bc | Montreal | | H3S | Canada | 2023-10-06 |
| Alexandre Vezin | Canton de Stans | | J0B1T0 | Canada | 2023-10-06 |
| Nely Furtado | Candiac | | N2P | Canada | 2023-10-06 |
| Gretchen Hatfiel | Canton de Stans | | J1X3W4 | Canada | 2023-10-06 |
| mary cartmel | Magog | | J1X | Canada | 2023-10-06 |
| Suzanne Marcil | Georgeville | | J0B 1T0 | Canada | 2023-10-06 |
| Bonnie Lin | Chicago | | 60602 | US | 2023-10-06 |
| Marion Bromley | Lincoln | | 02865 | US | 2023-10-06 |
| Amrita Harish | Westford | | 01886 | US | 2023-10-06 |
| Ian Dickson | "" | | "" | US | 2023-10-06 |

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|---|---|---|---|---|---|
| isabelle gilbert | Timmins | | P4N | Canada | 2023-10-06 |
| Michelle Martine | Albuquerque | | 87112 | US | 2023-10-06 |
| Richard Reece | Waynesboro | Georgia | 30830-7023 | US | 2023-10-06 |
| Mei guang Lin | Chicago | | 60602 | US | 2023-10-06 |
| Jada Dellinger | Aspers | | 17305 | US | 2023-10-06 |
| Sophia I just did | Boom boom city | | 28364 | US | 2023-10-06 |
| nae amoako | Melborne | | 07734 | US | 2023-10-06 |
| Gregory Nelms | St. Petersburg | Florida | 33713 | US | 2023-10-06 |
| Leta Brimmer | Harrison Valley | | 16927 | US | 2023-10-06 |
| Michelle Nee | Frisco | | 75035 | US | 2023-10-06 |
| Jean Pool | Phoenix | Arizona | 85040 | US | 2023-10-06 |
| jean-marc deviri | Canton de Stans | | J1X 3W4 | Canada | 2023-10-07 |
| Jennifer Smith | Magog | | J1X | Canada | 2023-10-07 |
| Tania Mora | STANSTEAD | | J0B1E0 | Canada | 2023-10-07 |
| Marquis Aita | Stanstead | | J0B1E0 | Canada | 2023-10-07 |
| Michelle Ashley | Annandale | | 22003 | US | 2023-10-07 |
| James Leroux | Montreal | | H4A | Canada | 2023-10-07 |
| Jean-Paul Gagn | Fitch Bay | | J0B 3E0 | Canada | 2023-10-08 |
| Céline Laforge | Bolton-Est | | J0E | Canada | 2023-10-09 |
| Lynn Murray | Ottawa | | K2C | Canada | 2023-10-09 |
| Yolande Chabot | Sherbrooke | | J1H | Canada | 2023-10-09 |
| Ann Chiu | toronto | | M6K 3B7 | Canada | 2023-10-09 |
| Kelly James | Kingsburg | | B0J | Canada | 2023-10-10 |
| Rona Fraser | Almonte | | K0A 1A0 | Canada | 2023-10-10 |
| Melanie Giguere | Montreal | | H3S | Canada | 2023-10-10 |
| Nicolas Vanier | Montreal | | H2Z | Canada | 2023-10-10 |
| Emily F | Orleans | | K4A | Canada | 2023-10-10 |
| Nicolas Gagnon- | Mont-Royal | | H3P 1K1 | Canada | 2023-10-13 |
| Denis Gélinas | Fitch Bay | | J0E | Canada | 2023-10-14 |
| Deny Bertrand | Ayer's Cliff | | J0B | Canada | 2023-10-26 |

| | | | | | |
|---|---|---|---|---|---|
| Jen B | Charlotte | Michigan | 48813 | US | 2023-11-14 |
| LUC VANIER | Magog | | J1X 5V9 | Canada | 2023-12-03 |
| Dez P | Tweed | | K0K | Canada | 2023-12-04 |
| Afshaa Shaikh | Toronto | | M3M2E9 | Canada | 2023-12-04 |
| Robyn bay | Edmonton | | T6T 6C0M5 | Canada | 2023-12-04 |
| Anne C. | Moncton | | E1C 0B6 | Canada | 2023-12-04 |
| Joan Klatt | Oakville | | L6j4v7 | Canada | 2023-12-04 |
| Solar Flare | Barrie | | L9X | Canada | 2023-12-04 |
| Mark Wulfand | Bradford | | L3Z2M4 | Canada | 2023-12-04 |
| Patrick Payton | Mississauga | | L5A | Canada | 2023-12-04 |
| Jonathan Gollan | Ottawa | | K2C 3P8 | Canada | 2023-12-04 |
| Tristan Hannah | St. Catharines | | L2R-5P9 | Canada | 2023-12-05 |
| Kimberly Phan | Surrey | | V4n 0v2 | Canada | 2023-12-05 |
| Anonymous Can | "" | | "" | Canada | 2023-12-05 |
| Scott MacIntosh | Ottawa | | K1N5S6 | Canada | 2023-12-05 |
| Nieha Kapila | Oakville | | L6M | Canada | 2023-12-05 |
| Mathieu Touchet | Montréal | | H4C1X9 | Canada | 2023-12-05 |
| Joel Lacoursiere | London | | "" | Canada | 2023-12-05 |
| Adrian McLaugh | Saint John | | E2L1V9 | Canada | 2023-12-05 |
| Gabriella Balog | Thunder Bay | | P7G | Canada | 2023-12-05 |
| Dana Gunn | Cambridge | | N3H 3V8 | Canada | 2023-12-05 |
| Rhonda Morris | Napanee | | K7R 3K9 | Canada | 2023-12-05 |
| Kimberley Water | "" | | "" | Canada | 2023-12-05 |
| Marilyn Starr | Haisla | | V0T 2B0 | Canada | 2023-12-09 |
| Colleen Moore d | Brooklyn | New York | 11249 | US | 2023-12-09 |
| Misses Lazer | Newport | Vermont | 05853 | US | 2023-12-09 |
| Nancy Riege | Greensboro | Vermont | 05841 | US | 2023-12-09 |
| Glenn xxxxxxx | "" | | E1A | Canada | 2023-12-09 |
| Darion Findlay | Logan | | 84321 | US | 2023-12-09 |
| Zoë Fletcher | Sacramento | | 94204 | US | 2023-12-09 |

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|---|---|---|---|---|---|
| Alice Lumia | Toronto | | M5A | Canada | 2023-12-09 |
| Kenny Destima | Oshawa | | L1L | Canada | 2023-12-09 |
| Shilo Kincer | Ashland | | 41101 | US | 2023-12-09 |
| Nina Machado | Cambridge | | N1R 5E6 | Canada | 2023-12-09 |
| Adam Kaluba | Burleson | | 76028 | US | 2023-12-10 |
| Nadia Sadiq | Etobicoke | | M9B 4E5 | Canada | 2023-12-10 |
| Kara Hayes | Lookout | | 25868 | US | 2023-12-10 |
| Natalia Prodanov | Vancouver | | V6H | Canada | 2023-12-10 |
| Rehanna Baksh | Toronto | | M3N | Canada | 2023-12-10 |
| Dylan Wenz | Attleboro | Massachusetts | 02703 | US | 2023-12-10 |
| Tanner Wesley | Lethbridge | | T1J | Canada | 2023-12-10 |
| Leilani Bautista | Coachella | | "" | US | 2023-12-10 |
| Jennifer Fee | groveland | | 61535 | US | 2023-12-10 |
| Jon Inwood | Brooklyn | New York | 11226 | US | 2023-12-10 |
| Sarah Ng | "" | | "" | Canada | 2023-12-10 |
| Cassie Pheonix | Vernon | | V1T 1S5 | Canada | 2023-12-10 |
| David Gritt | Oshawa | | L1H8V7 | Canada | 2023-12-10 |
| Stacy Royer | Newport | Vermont | 05855 | US | 2023-12-10 |
| Carole Dowd | Newport | Vermont | 05855 | US | 2023-12-10 |
| Jenna Barker | Jackson | | 49203 | US | 2023-12-10 |
| Christine Carring | Philadelphia | Pennsylvania | 19107 | US | 2023-12-10 |
| Angela Fortier | North Troy | Vermont | 05859 | US | 2023-12-10 |
| Hayden Colemai | Alexandria | | 22312 | US | 2023-12-10 |
| Alice Desloge | Austin | | 78721 | US | 2023-12-10 |
| Norma Berger | Mission | | 78572 | US | 2023-12-10 |
| jill angelichio | charlotte | | 28204 | US | 2023-12-10 |
| Alan Murray | London | | N5Y | Canada | 2023-12-10 |
| Cordelia Whalen | Longmont | | 80501 | US | 2023-12-10 |
| Mohammed Say | Toronto | | M1b2l4 | Canada | 2023-12-10 |
| Joshua Curphey | Peterborough | | PE7 | US | 2023-12-10 |

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|---|---|---|---|---|---|
| Zakria Pannu | Winnipeg | | R3T | Canada | 2023-12-10 |
| Jonathan Miller | Fort Wayne | | 46808 | US | 2023-12-10 |
| Deanna Barwick | Montreal | | H4W | Canada | 2023-12-10 |
| Emery Spampina | Bowling Green | | 42103 | US | 2023-12-10 |
| Renee Walsh | toronto | | M6R 1X9 | Canada | 2023-12-10 |
| Joys Niyomukiza | Ottawa | | K1T | Canada | 2023-12-10 |
| Robin Gaylord | Napanee | | K7r1v5 | Canada | 2023-12-10 |
| Joe C | New York | | 10011 | US | 2023-12-11 |
| Caroline Dugre | Gatineau | | J8Y2X9 | Canada | 2023-12-11 |
| Alana Preziosi | Swedesboro | | 08085 | US | 2023-12-11 |
| Deion Taylor | Denver | | 80238 | US | 2023-12-11 |
| Leopold Pierre | Brooklyn | | 11234 | US | 2023-12-11 |
| Lucas Smith | Calgary | | T3K | Canada | 2023-12-11 |
| Arilene Aguirre | LAS CRUCES | | 88012 | US | 2023-12-11 |
| Fangming Zhao | Longmont | | 80501 | US | 2023-12-11 |
| Ben Stenson | Saint Cloud | | 56303 | US | 2023-12-11 |
| Nigora Abdulnaz | windsor | | K7K | Canada | 2023-12-11 |
| Eric Dowsett | Belle River | | N0R1A0 | Canada | 2023-12-11 |
| Ashley Lamoure | Buffalo | | 14226 | US | 2023-12-11 |
| Leta Keith | Fort Worth | Texas | 76112 | US | 2023-12-11 |
| Dr Beverly Griffir | "" | | "" | US | 2023-12-11 |
| Kimberlee Wildm | Toronto | | M3N | Canada | 2023-12-11 |
| Lily Pagett | Edmonton | | T6G | Canada | 2023-12-11 |
| Lance Kammeru | "" | | "" | US | 2023-12-11 |
| Russell Brinson | West Palm Beac | | 33404 | US | 2023-12-11 |
| Michele Babkine | New York | New York | 10583 | US | 2023-12-11 |
| JIAN HUA PAN | Toronto | | M1W3W2 | Canada | 2023-12-11 |
| Lynette Springer | Oklahoma City | | 73162 | US | 2023-12-11 |
| Shalom Marvet | Airmont | | 10952 | US | 2023-12-11 |
| Luping Zhu | Calgary | | T3K | Canada | 2023-12-11 |

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|---|---|---|---|---|---|
| Carson Loveless | Bay de verde | | A0a1e0 | Canada | 2023-12-11 |
| robin brake | Frederick | | 21703-6117 | US | 2023-12-11 |
| Hannah Echevar | New Rochelle | | 10801 | US | 2023-12-11 |
| Robert Evans | Erie | Pennsylvania | 16507 | US | 2023-12-11 |
| lia jfkdd | Nepean | | K2G | Canada | 2023-12-11 |
| Natasha Arnold | "" | | "" | US | 2023-12-11 |
| Mridul Sharma | Brampton | | L6P 3L3 | Canada | 2023-12-11 |
| Nerissa Coolbeth | Newport | Vermont | 05855 | US | 2023-12-11 |
| Lauren Hu | Kelowna | | V1V | Canada | 2023-12-12 |
| Saira B | Mississauga | | L5G | Canada | 2023-12-12 |
| Tiffany MacMilla | Mount Stewart | | c0a 1t0 | Canada | 2023-12-12 |
| Samuel Ruder | Bolton | | L7E | Canada | 2023-12-12 |
| Fahmida Chowd | Irving | | 75063 | US | 2023-12-12 |
| Brianna Ohl | Orillia | | L3V | Canada | 2023-12-12 |
| Maissa Hebri | Montreal | | h4a1e9 | Canada | 2023-12-12 |
| Yao Lu | Edmonton | | T5X | Canada | 2023-12-12 |
| Donna Delmoora | Berlin | Vermont | 05641 | US | 2023-12-12 |
| Ahmed Yar | Surrey | | V3X | Canada | 2023-12-12 |
| Brooke Couturie | Chestermere | | T1X1V4 | Canada | 2023-12-12 |
| Jenny Blakely | Stafford | Virginia | 22554 | US | 2023-12-12 |
| Linda Warnaar | Sharon | Vermont | 05065 | US | 2023-12-12 |
| Sadiqa Basiri | Ottawa | | K1L 6N7 | Canada | 2023-12-12 |
| Tammy Buerge | Abbotsford | | V2T | Canada | 2023-12-12 |
| Sumaya Fatima | Toronto | | M1t3n1 | Canada | 2023-12-12 |
| Rehena Moses | Toronto | | M6N | Canada | 2023-12-12 |
| S J | Regina | | Ssss | Canada | 2023-12-13 |
| qiang li | Edmonton | | T5X | Canada | 2023-12-13 |
| Unzila Khan | Niagara Falls | | L2H0C9 | Canada | 2023-12-13 |
| Summer Kinslow | Toronto | | M5A | Canada | 2023-12-13 |
| Dongdong Huan | Coquitlam | | V3B 0G7 | Canada | 2023-12-13 |

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|---|---|---|---|---|---|
| Nicole Mai | Calgary | | T3K | Canada | 2023-12-13 |
| Mohammad Hus | Ottawa | | K2J | Canada | 2023-12-13 |
| Muneer Mohamc | Winnipeg | | R2K | Canada | 2023-12-13 |
| Jasra Irfan | Mississauga | | L5C | Canada | 2023-12-13 |
| Daemon Zuccarc | Markham | | L6E | Canada | 2023-12-13 |
| Kelemoi Tedene | Mississauga | | L5A | Canada | 2023-12-13 |
| Jacinta Ahrens | Newport | Vermont | 05855 | US | 2023-12-14 |
| Lydia ALLEN | Napoleon | Ohio | 43545 | US | 2023-12-14 |
| Dana Karuza | Medford | Massachusetts | 02155 | US | 2023-12-15 |
| | | | | | |

**From:** bneemmons@aol.com
**Sent:** Tuesday, December 19, 2023 9:28 AM
**To:** ANR - WSMD Wastewater
**Subject:** Dump Lake Memphremagog



----- Forwarded Message -----
**From:** Richard Morris <rfd1limestone@gmail.com>
**To:** "bneemmons@aol.com" <bneemmons@aol.com>
**Sent:** Monday, December 18, 2023 at 03:32:00 PM EST
**Subject:**

Email Address : **ANR.WSMDWastewaterComments@vermont.gov**

Subject: Comments on Application for Permit Amendment 3-1406 (Casella/NEWSVT & Coventry Landfill / Memphremagog Watershed)

Body of Email **********

The owner/operator (Casella/NEWSVT) of the state's only active landfill in Coventry has applied for an amended permit to allow them to build and operate a leachate treatment facility onsite, dangerously close to Lake Memphremagog

I fully support the need for the responsible treatment of landfill leachate to remove PFAS and other hazardous containments from our state's waste.

However, I am strongly opposed to any treatment or discharge of leachate in the Lake Memphremagog watershed.

A more responsible location needs to be selected for this critical leachate treatment facility.

The groundwater collected and tested from underneath this landfill, owned and operated by Casella/NEWSVT, has already been shown to contain levels of PFAS and other contaminants that are harmful to life. Furthermore this contaminated discharge has been pouring into the Lake Memphremagog wetlands for years.

It has been demonstrated that the current leachate collection system is not designed to handle our extreme weather. This past July, it was reported that the level of leachate surpassed the allowable flow rates. We risk catastrophic environmental damage if any of the many pumps and sensors vital to the operation fail. Ask the folks in Bethlehem, NH what happens when instrumentation fails and there is no one watching to stop the 154,000 gallons of untreated leachate from pouring into the Ammonoosuc river.

Siting a landfill in the Memphremagog watershed was a mistake that was made years ago. Lake Memphremagog flows north, and it is the source of drinking water for 175,000 Canadians. Given all that we know about corporate enterprise, equipment failures, extreme weather events, and PFAS contamination, let us not make another mistake that further degrades the watershed and the waters of Lake Memphremagog.

An alternate and more responsible location needs to be selected for this critically needed leachate treatment facility.

Beverly Emmons

341 Whispering Pines Road

Derby, Vermont 05829

**From:** claudia rose <claudiarosevt@gmail.com>
**Sent:** Tuesday, December 19, 2023 11:20 AM
**To:** ANR - WSMD Wastewater
**Subject:** Permit Amendment 3-1406
**Attachments:** ANR feedback re Mem draft 2.docx

ANR.WSMDWastewaterComments@vermont.gov

Concerning Permit Amendment 3-1406.
The Agency of Natural Resources
under Permit #3-1406.2304.

From:
Lewis and Claudia Rose
Derby and Enosburg Vermont
lewdrose@gmail.com
claudiarosevt@gmail.com

Dear Agency Administrator,
We have been summer residents on Lake Memphremagog since 1973 and homeowners there since 1991 with current primary home in Enosburg Vermont. Our experience with the diminishing of the health of the lake over the last 50 years has led us to oppose the "proposed pilot" leachate treatment facility to be built on the Coventry landfill.

Lake Memphremagog is an international treasure. The beauty of its setting and water attracts locals and tourists to its shores. Businesses depend on it for seasonal visitors. Canadians use it for drinking water. The State of Vermont has the responsibility to protect this lake for its citizens and those of the Province of Quebec.

Leachate from the Coventry landfill contains toxic materials. Everyone understands the need to remove the PFAS compounds from the leachate, however, this process needs to be done away from water. The cancerous bottom feeding fish and cyanobacterial blooms now common are an indication that the lake is at risk just from the landfill in its watershed. The leachate needs to be taken elsewhere for processing. It is time for a permanent moratorium on the flow of toxins into Lake Memphremagog.

The Coventry Landfill license is due to expire in 15 years. Now is the time to look ahead to a permanent solution to the leachate problem without the special needs that a thirty-mile-long lake entails. It is time to move leachate processing close to the centers responsible for tons of trash now being carried to the part of the state that contributes the least for disposal. Not only would this be more environmentally just, it would reduce highway degradation and air pollution caused by thousands of semis and their exhaust.

The scariest part of this enormous landfill for us is that Vermont law regulates only a fraction of the PFAS chemicals known to be harmful to human and wildlife. There is more study needed to identify the true list of forever chemicals that need to be removed from our waste stream and how to store them. Keeping the current system of removing toxins from the leachate in Montpelier while building a system based on current science and our evolving state laws is more practical and less harmful to a lake in peril.

Therefore, we support:

1) A permanent moratorium on any discharge of leachate (treated or untreated) into the Lake Memphremagog watershed.
2) Ultimately moving the landfill to an area closer to the source of the waste. This would be more efficient, decrease air pollution and create Environmental Justice.
3) A more comprehensive leachate system that removes not just 5 long-chain PFAS compounds, but one that will remove all primary long-chain and if the science is found, short-chain compounds as well.

This is in the best interest of Lake Memphremagog, the State of Vermont, and the Province of Quebec.

In addition, when your evaluations are complete, we ask that all involved in the resolution of Permit Amendment 3-1406 meet in Newport to discuss your findings with the citizens most affected by this amendment.

Sincerely,
Lew and Claudia Rose

**From:** Lucy Shrenker <lucyshrenker@gmail.com>
**Sent:** Tuesday, December 19, 2023 3:57 PM
**To:** ANR - WSMD Wastewater
**Subject:** Leachate



We should be doing everything we can to protect the purity of our natural resources and keep the waters of Lake Memphremagog clean. I realize that no one wants a landfill in their own back yard and yet everyone wants to be able to throw away our rubbish. However we have to put all of our efforts into protecting our waterways and not take any chances that severe weather and flooding can pollute and do irreversible damage to the flora and fauna in our rivers and lakes. Vermont's best asset is its clean and beautiful environment and the tourism that attracts. We will keep working to keep the waters of Lake Memphremagog pure.

Sincerely, Lucy Shrenker
Co-owner of Bell Island on Lake Memphremagog

**From:** Fortunati, Robert <bfortunati@blodgettsupply.com>
**Sent:** Tuesday, December 19, 2023 5:18 PM
**To:** ANR - WSMD Wastewater
**Cc:** Fortunati, Robert
**Subject:** Comment to Amendment 3-1406 permit 3-1406.2304



To ANR , I have attended the December 12th informational meeting held for public comments , very good comments were made , I do hope that you take stock in what those concerns are . Many times, the responses by the ANR agency are Science Based , the basis seems only to support reasoning to only suite a predetermined agenda . My concern is that you have already made up your minds on this and construction is already well underway. ( yes, pretreatment of leachate seems to be very much needed why here ) It is never too late however to change your policy of thinking and understanding that the general population here and around the Area and our neighbors to the north in Canada do not want any discharge of even what you would consider by science as drinking water standard. The lake is already at risk of exposure long term beyond our years. Anything man made over time will deteriorate , and this puts the envirment we live and breath at risk. Fish we eat , the larger species once were a fry minnow living in the shallows feed on small life . PFAS is man made and seems to be something that does last forever , surely was not by design that these chemicals long and short chain end up polluting our wetlands tributaries . Insects, plants, animal, fish and waterfowl all feed from these waters. Concentrations in fish can be much higher than drinking water when consumed. I see the pilot leachate program as a foot hold into a larger more permanent system that will require years of service maintenance, this will be at a great expense , as a state we cannot be assured that a private company will always be able to operate and or being in business long enough or sold off generations to come. The state needs to centralize the leachate treatment so that it is situated for future landfills minimizing cost of transportation and in a geological area where spills are not threatening to a large body of water or tributary . I am opposed to any discharge of even treated leachate into the Memphremagog water shed. Just the mere thought of it is disturbing even if your science says it's okay. There is already a large risk just having the landfill here and already DU3 is showing signs of higher levels of PFAS , what else are we going to find out about ? If you would Start listening to the people, we wouldn't be having this conversation in the first place . The larger the landfill grows the unintended consequences compound. Eventually this will be out of control which I feel, and many share my sediments that these are the beginning tail telling signs of larger issues to come. Please do the job you are hired to protect the environment ; the wildlife doesn't seem to have a voice in all of this so let's do a better job and keep this in mind . Do it Right ; Please .

Kind Regards

Robert Fortunati
Coventry Resident

**From:** von Kann Curtis <cvonkann@jamsadr.com>
**Sent:** Tuesday, December 19, 2023 8:01 PM
**To:** ANR - WSMD Wastewater
**Subject:** COMMENTS REGARDING WASTEWATER TREATMENT PERMIT NO. 3-1406.2304
**Attachments:** COMMENT re PERMIT NO. 3-1406.2304.docx



Dear Sir or Madam:

Attached are my comments concerning the permit for a pilot leachate treatment program at the Casella Landfill in Coventry, Vermont,

Judge Curtis E. von Kann

**Comments of Judge Curtis E. von Kann Regarding**
**Wastewater Permit No. 3-1406.2304 (Leachate Treatment at Casella Landfill, Coventry, VT.**

I am the owner of Cove Island on Lake Memphremagog. For more than a century, my family has owned that island and has spent every summer there swimming, canoeing, sailing, water skiing, and deeply enjoying the beauty of the lake and its environs as well as contributing substantially to the local economy. My wife and I also own a cottage (358 Pine Street, Newport, Vermont) on the edge of the lake which we purchased in 2017.

I am deeply concerned about the increasing degradation in the water quality of this lake, which is a critical recreational, tourist and economic resource for the Northeast Kingdom as well as the source of drinking water for hundreds of thousands of our Canadian neighbors. In recent years, algae blooms have become much more common (probably in part due to global climate change), the lake has been less clear, and sometimes it smells and tastes bad. Most of this is attributable to the increasing flow of nutrients into the lake from overuse of manure by nearby farmers and by failing septic systems in generations-old cottages all along the lake shore. When we purchased our Newport cottage in 2027, a septic system inspection was required, and the cottage failed. We had to install a state-of-the-art $40,000 Mound System to buy and occupy the property. Many older homes in the area have inadequately treated sewage from no longer functioning septic fields flowing directly into the lake and its tributaries.

These profoundly serious sources of damage to the lake are separate from the Coventry Landfill issues (and very much in need of aggressive remedial and preventive action by Vermont Environmental authorities) but they make any additional degradation from Coventry all the more harmful.

Science is just beginning to figure out how best to deal with PFAS “forever” chemicals. We are a long way from knowing what works best and what does not. Since the leachate from Coventry is presently being contained and/or treated as effectively as possible at the advanced wastewater treatment facility in Montpelier, there is absolutely no need to experiment on Lake Memphremagog with techniques that may well be unsuccessful. What possible justification could there be for spending 180 days or more to try things that could well leave the lake and its environs stuck forever with highly dangerous chemicals when they are now being handled safely elsewhere?

If the pilot program proves a failure, Vermont may well have violated international law by consciously taking high-risk actions that could send life-threating chemicals across the border into Canada’s drinking water. One can only imagine the millions, perhaps billions of dollars Vermont would be ordered to pay If class action lawsuits found that it acted with gross negligence in conducting such an experiment when there was no need to do so.

Classic risk-avoidance principles teach that the graver the adverse consequences of a course of action may be, the lower is the level of risk that can be considered acceptable. In this instance, the adverse consequences of PFAS experimentation are extremely high and, due to the lack of established scientific data, the risk is quite high as well. If it is true, as some allege, that the State of Vermont has allowed Casella to begin the pilot program without final approval of the necessary permits, that reckless conduct will certainly lead to liability for the Vermont authorities that allowed it to happen.

Moreover, environmental justice demands that, when 93% of the leachate-producing materials are generated outside of the Northeast Kingdom, the NEK should not have to bear any longer the risks of dealing with those dangerous materials, as it has for many years.

In short, proceeding any further with the pilot program is unjustified, unnecessary, and unconscionable. It must stop immediately.

Sincerely, Curtis E. von Kann (Reachable via cvonkann@gmail.com and 202-362-0093).
Winter residence: 2839 Chesterfield Place, NW, Washinton, DC 20008-1015

**From:** Elizabeth Nelson <lizinvermont@gmail.com>
**Sent:** Tuesday, December 19, 2023 9:34 PM
**To:** ANR - WSMD Wastewater
**Subject:** Lake Memphremagog and forever chemicals



Dear ANR
Where is the Environment Justice for the Northeast Kingdom?

The owner/operator (Casella/NEWSVT) of the state's only active landfill in Coventry has applied for an amended permit to allow them to build and operate a leachate treatment facility onsite, dangerously close to Lake Memphremagog. I fully support the treatment of landfill leachate to remove PFAS and other contaminants, but I am strongly opposed to any treatment or discharge of leachate in the Memphremagog watershed.

- ISN'T IT ENOUGH that the only active landfill in the state is located in the Memphremagog watershed, and up to 600,000 tons of solid waste is dumped there every year? Less than 7% of that waste is generated in the Northeast Kingdom (NEK).
- ISN'T IT ENOUGH that the groundwater collected and tested from underneath the landfill, owned and operated by Casella/NEWSVT, has already been shown to contain levels of PFAS and other contaminants that are harmful to life? Furthermore, this contaminated discharge has been pouring into the wetlands for years.
- ISN'T IT ENOUGH that strong odors carrying contaminants are often detected by residents living near the landfill? Also, winds coming from the south carry the odors into downtown Newport City.
- ISN'T IT ENOUGH that the current leachate collection system is not designed to handle our extreme weather? This past July the level of leachate surpassed the allowable flow rates. We risk catastrophic environmental damage if any of the many pumps and sensors vital to the operation fail – and they do. Ask the folks in Bethlehem, NH what happens when instrumentation fails and there is no one watching to stop the 154,000 gallons of untreated leachate from pouring into the Ammonoosuc river.
- ISN'T IT ENOUGH that the state agencies we rely on to protect our health and the health of the environment have neglected to enforce their own regulations, and chosen the NEK as a sacrifice zone for Vermont's solid waste? That they actually introduced the idea of creating a wastewater treatment facility at the landfill in an internal email sent back in February of 2020, referring to it as a possible revenue generating tool and discussing the potential to discharge the leachate into the Black River. Revenue over responsibility!
- YES, IT IS TOO MUCH AND TOTALLY UNREASONABLE to now allow a corporate enterprise to select, install and oversee the operation of a leachate wastewater treatment facility in the Memphremagog Watershed. Wastewater treatment is a public function, and should be operated and monitored by a municipality, not a for-profit company. It is too much to accept that the City of Montpelier has procured $1,000,000 in ARPA funding to provide money to a for-profit corporation to build a leachate treatment facility in the NEK, away from Montpelier. They could use those funds to upgrade their own facility to remove PFAS and other contaminants from all of their influent sources. Instead, they pass $1,000,000 to Casella to endanger our local environment. No, we cannot allow a for-profit enterprise to set up a leachate treatment business to import leachate from outside of the NEK long after the landfill has reached final capacity and has closed.

IT IS WAY TOO MUCH. IT IS ENVIRONMENTAL INJUSTICE.

Lake Memphremagog is the beating heart of the Northeast Kingdom, and all of our futures depend on these waters that we share with our Canadian neighbors. Lake Memphremagog flows north, and it is the source of drinking water for 175,000 Canadians. Siting a landfill in the Memphremagog watershed was a mistake that was made years ago. With all that we know about corporate enterprise, equipment failures, extreme weather events, and PFAS contamination, let us not make another mistake that further degrades the watershed and the waters of Lake Memphremagog**. Locate the leachate treatment in Montpelier, closer to the population generating the majority of the waste, at the municipal treatment facility where it can be operated and monitored properly to protect Vermont's people and wildlife.**

I support and agree with all of these points. I have owned and lived on my farm in West Glover since 1964.

Elizabeth Nelson
2602 Andersonville Road
West Glover VT 05875

**From:** S.Christopher Jacobs <seajuay6116@gmail.com>
**Sent:** Tuesday, December 19, 2023 9:34 PM
**To:** ANR - WSMD Wastewater
**Subject:** Permit #3-1406.2304



Thank you for the opportunity to comment on this permit, in spite of having attended all permit applications I have never seen a change in a permit, just justifications. There should never be any treatment of leachate in the Memphremagog landfill. Any potential leachate leak, release or accident is dangerous for U.S. Memphremagog residents, but also for 175,000 Canadian residents who get their drinking water from Memphremagog. This is a potential international incident which should never happen. {An accident at a Bethlehelm, N.H .facility releasing 154000 gallons of leachate proves it does, from an unmonitored weekend facility, similar to Coventry proposal].

The installation/use of a test facility in Coventry can not/must not be the first step to build a permanent facility in Coventry. A facility that is already "leaking" [too many PFAS, PFOS, PF.....etc] into underdrain 3 { and wherever not yet discovered ]. Coventry landfill is already committed to closing, so why build a new facility there,rather than in /near Montpelier where a much larger percentage of the garbage is generated and closer to where a new facility ought to be built at a landfill which can be state owned and be able to control the origin of leachate to be treated. [It should be noted that leachate brought into Coventry will be brought into a private facility where quantities of out of state leachate can not be controlled]

It should be noted that I am 100% in favor of treating leachate.....just not in the Memphremagog watershed.

Chris Jacobs
Albany, VERMONT

**From:** Peter Blair <pblair@just-zero.org>
**Sent:** Wednesday, December 20, 2023 9:20 AM
**To:** ANR - WSMD Wastewater; Moore, Julie
**Cc:** Christopher Bray; Amy Sheldon; Virginia Lyons; Nora Bosworth; Elena Mihaly; Kirstie Pecci; Laura Orlando; Polaczyk, Amy; Giannetti, Nick; LaFlamme, Pete
**Subject:** CLF and Just Zero Comments on Pretreatment Discharge Permit (Permit No. 3-1406).
**Attachments:** CLF_Just-Zero_Comments-Pretreatment-Discharge-Permit-No.3-1406 (Dec. 20. 2023).pdf



Dear Ms. Moore,

Thank you for the opportunity to provide comments on the Draft Pretreatment Discharge Permit (Permit No. 3-1406) and Leachate Treatment Pilot Plan for New England Waste Services of Vermont, Inc. Attached are comments submitted on behalf of Just Zero and Conservation Law Foundation.

Just Zero and Conservation Law Foundation recognize and appreciate the steps the Agency of Natural Resources is taking to address the release of PFAS into the environment from landfill leachate. The piloting of a treatment system to reduce and remove the concentrations of PFAS in landfill leachate prior to discharge to a wastewater treatment plant ("WWTP") is a critical first step in creating of a comprehensive statewide system focused on reducing the release of these highly toxic and pervasive compounds into the environment. However, as currently drafted, the Pretreatment Permit and the Pilot Plan raise significant public health and environmental concerns that the Agency must address.

The attached comments:

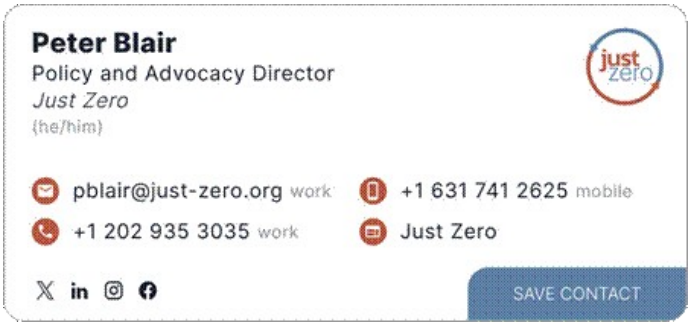
- Express our concerns with the permitting process surrounding the development of the Pilot Plan.
- Urge the Agency of Natural Resources to establish success criteria to accurately evaluate the proposed treatment technology and to evaluate whether the adopted treatment system will warrant expansion.
- Critique the Pilot Plan based on the lack of evidence surrounding the proposed foam fractionation systems ability to effectively and consistently remove the variety of PFAS compounds – and PFAS precursors – known to be present in landfill leachate.
- Outline the unacceptable risk of environmental contamination associated with the proposed residual management and air emission plans.
- Provide recommendations for the development of a more robust and evidence-based treatment system that will not only help remove the current class of regulated PFAS in landfill leachate, but also additional PFAS compounds that are of emerging concern and PFAS precursors.

In support of our comments, we have also included an analysis of the proposed Pilot Plan conducted by two experts in the field of civil and environmental engineering, Yang Yang, PhD and Thomas Holsten, PhD. This analysis is included in the comments as Attachment A.

Additionally, given the importance of this permit and the role it will play in the development of a technology based effluent limit and/or treatment standard for landfill leachate, we would like to meet with relevant staff members to discuss our concerns and recommendations.

Thank you for your time and consideration of these comments.

Best,
Peter Blair, Esq.


Peter Blair
Policy and Advocacy Director
Just Zero
(he/him)
just zero
pblair@just-zero.org work
+1 631 741 2625 mobile
+1 202 935 3035 work
Just Zero
SAVE CONTACT

December 20, 2023

Julie Moore
Secretary, Agency of Natural Resources
Department of Environmental Conservation
1 National Life Drive – Davis 3
Montpelier, VT 05620-3901

**RE: Draft Amended Pretreatment Discharge Permit for New England Waste Services, Inc. (Permit No. 3-1406)**

Thank you for the opportunity to provide comments on the Draft Amended Pretreatment Discharge Permit ("Pretreatment Permit) and Leachate Treatment Study Plan ("Pilot Plan") for New England Waste Services of Vermont, Inc. ("Casella"). These comments are submitted on behalf of Conservation Law Foundation ("CLF") and Just Zero.[1]

CLF's mission is to conserve natural resources, protect public health, and build healthy communities in Vermont and throughout New England. Through its Zero Waste Project, CLF aims to protect communities and our environment from the toxic dangers of unsustainable waste practices and advance waste reduction, diversion, and recycling.

Just Zero is a national non-profit environmental advocacy organization that works alongside communities, policy makers, scientists, organizers, and others to implement just and equitable solutions to climate-damaging and toxic production, consumption, and waste disposal practices. Just Zero's staff believes that all people deserve Zero Waste solutions with zero climate-damaging emissions and zero toxic exposures.

We recognize and appreciate the steps the Agency of Natural Resources ("Agency") is taking to address the release of per- and polyfluoroalkyl substances ("PFAS") into the environment from landfill leachate. The piloting of a treatment system to reduce and remove the concentrations of PFAS in landfill leachate prior to discharge to a wastewater treatment plant ("WWTP") is a critical first step in creating of a comprehensive statewide system focused on reducing the release of these highly toxic and pervasive compounds into the environment. Prior to this, Vermont's system for managing leachate did not address the fact that leachate is known to contain high concentrations of PFAS. We commend the Agency for taking the issue of PFAS contamination seriously and working proactively to limit the release of these compounds.

**However, as currently drafted, the Pretreatment Permit and the Pilot Plan raise significant public health and environmental concerns that the Agency must address.** As we explain in greater detail below:

- Section I – The development of a pretreatment system to remove PFAS in landfill leachate is imperative.

[1] Hereinafter these organizations are collectively referred to as "we."

- Section II – The permitting process surrounding the development of the Pilot Plan has raised concerns regarding the Agency's ability and willingness to sufficiently scrutinize the proposed treatment system.
- Section III – The Agency has failed to establish the success criteria needed to accurately evaluate whether the adopted treatment system will warrant expansion.
- Section IV – There is inadequate evidence that the Foam Fractionation system Casella intends to utilize will effectively and consistently remove the variety of PFAS compounds – and PFAS precursors – known to be present in landfill leachate. Additionally, both the residuals management and air emissions plans pose unacceptable risk of environmental contamination.
- Section V – In this section, we outline our recommendations for the development of a more robust and evidence-based treatment system that will not only help remove the current class of regulated PFAS in landfill leachate, but also additional PFAS compounds that are of emerging concern and PFAS precursors.

In support of our comments, we have also attached an analysis of the proposed Pilot Plan conducted by two experts in the field of civil and environmental engineering, Yang Yang, PhD and Thomas Holsten, PhD Attachment A includes their report ("Expert Report") and respective credentials.

Ultimately, the Pilot Plan can be an important step forward in addressing the inadequacies of Vermont's existing leachate management system. **However, approving Casella's proposed treatment system would allow the piloting of a single treatment technology that has not been sufficiently demonstrated on landfill leachate or as a means of separating or destroying PFAS.** Therefore, the Agency must reject the proposed Pilot Plan and should instead adopt a more robust treatment chain as described below.

## I. Background on the Importance of Leachate Pretreatment as a Means of Reducing PFAS Contamination.

The current regulatory system of managing landfill leachate in Vermont is inadequate to address PFAS. This is especially concerning given that outside of manufacturing, landfill leachate is one of the most prevalent pathways for the release of PFAS into the environment.[2]

Currently, Vermont manages all leachate through WWTPs. These facilities are not equipped to remove the diverse and complex range of contaminants in leachate prior to discharge into surface waters. Instead, the treatment is primarily focused on reducing wastewater discharges of so-called conventional pollutants: oil, grease, organics like nitrogen and phosphorous, total suspended solids, and settleable matter. Importantly, these facilities do not address the presence of PFAS.

The result of this ineffective management system is that PFAS-contaminated wastewater is currently being discharged from WWTPs into surface waters. This is especially true for WWTPs

[2] Malovanyy, A., Fredrik, H., Bergh, L., Liljeros, E., Lund, T., Suokko J., & Hinrichsen, H., Comparative Study of Per-and-Polyfluoroalkyl Substance Removal From Landfill Leachate, Journal of Hazardous Materials, 450, 132505. (Oct. 15, 2023). https://doi.org/10.1016/j.jhazmat.2023.132505

that accept wastewater from sources known to contain high concentrations of PFAS, such as landfill leachate. In fact, WWTPs that accept landfill leachate have higher PFAS concentrations in effluent than all other plants in Vermont.[3] Worse, there is growing evidence that the oxidation process that occurs at WWTPs can convert unregulated compounds such as fluorotelomer carboxylates into both regulated and unregulated PFAS compounds.[4] This includes the creation of perfluoroalkyl acids – a form of PFAS that is highly toxic.[5]

The PFAS in the effluent discharged from the WWTPs then bioaccumulates and disperses into the wider environment. Once released into the environment, PFAS are difficult to contain and remediate because of their longevity. A growing body of science has documented that there are significant adverse health effects associated with exposure to PFAS, including liver damage, thyroid disease, decreased fertility, high cholesterol, obesity, endocrine system disruption, hormone suppression, and cancer.[6] In fact, on December 1, 2023, the International Agency for Research on Cancer classified PFOA as a cancer-causing substance.[7]

Developing a pilot to test and evaluate technologies that can effectively and consistently remove PFAS compounds from landfill leachate will significantly reduce the release of these toxic compounds into the environment. In fact, the results of the pilot will likely have a precedential effect throughout the region and the country.

Effectively managing PFAS in leachate is increasingly important as both federal and state regulators develop new requirements for these toxic compounds. In many ways, this regulatory shift has already begun. The U.S. Environmental Protection Agency ("EPA") has proposed regulations to designate PFOA and PFOS as hazardous substances under the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA" or "Superfund").[8] Additionally, EPA has announced plans to develop new effluent limitations guidelines and pretreatment standards for landfill leachate.[9] The announcement comes after a determination that

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[3] Weston & Sampson, Summary Report for the Vermont Department of Environmental Protection: Poly-and Perfluoroalkyl Substances Inputs to Wastewater Treatment Facilities, Section 1, p. 1-1. (Mar. 26, 2022). Available, https://dec.vermont.gov/sites/dec/files/wmp/residual/2021%20VTDEC%20PFAS%20Inputs%20to%20WWTF%20Study.2022March29.pdf

[4] Helmer, R. W., Reeves, D. M., & Cassidy, D. P. (2022). Per- and polyfluorinated alkyl substances (PFAS) cycling within Michigan: Contaminated sites, landfills and wastewater treatment plants. Water Research, 210, 117983. https://doi.org/10.1016/j.watres.2021.117983

[5] *Id.*

[6] National Toxicology Program, Monograph on Immunotoxicity Associated with Exposure to Perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS), U.S. Department of Health and Human Services, p. 16. (Sept. 2016). Available at https://ntp.niehs.nih.gov/sites/default/files/ntp/ohat/pfoa_pfos/pfoa_pfosmonograph_508.pdf

[7] International Agency for Research on Cancer, Monogrpahs Evaluate the Carcinogenicity of PFOA and PFOS, World Health Institute. (Dec. 1, 2023). https://www.iarc.who.int/news-events/iarc-monographs-evaluate-the-carcinogenicity-of-perfluorooctanoic-acid-pfoa-and-perfluorooctanesulfonic-acid-pfos/

[8] EPA, Designation of Perfluorooctanoic Acid (PFOA) and Perfluorooctanesulfonic Acid (PFOS) as CERCLA Hazardous Substances, Proposed Rule, 87 Fed. Reg. 54415 (Sept. 6, 2022). Available at https://www.federalregister.gov/documents/2022/09/06/2022-18657/designation-of-perfluorooctanoic-acid-pfoa-and-perfluorooctanesulfonic-acid-pfos-as-cercla-hazardous

[9] Megan Quin, EPA Proposes Further Leachate Regulations After Study Find PFAS at 95% of Surveyed Landfills, Waste Dive (Jan. 24, 2023). Available at https://www.wastedive.com/news/pfas-epa-landfill-leachate-swana-nwra-wm-republic/641030/

new effluent guidelines for landfills are necessary to address the presence of PFAS in leachate.[10] States such as California, Michigan, New Jersey, Maine, and Washington, are also taking steps to limit PFAS, which has prompted increased attention on pretreatment technology for landfill leachate.[11] Most notably, in 2022, the Maine legislature enacted a resolve which directed the Bureau of General Services to conduct a study to identify readily available methods to reduce the concentrations of PFAS generated from landfills in the state.[12] The findings of the study are expected to result in proposals to develop pretreatment requirements for landfill leachate.

As states across the country continue to grapple with PFAS contamination they will undoubtably look at the steps Vermont is taking to address PFAS in leachate. The results of this Pilot Plan will likely inform pretreatment requirements for landfill leachate, technology based effluent limitations for PFAS from wastewater including landfill leachate, and the development of surface water quality standards for PFAS at both the federal and state level. Therefore, it is imperative that the Agency adopt a strong pilot project plan at the outset and then play an active role in the oversight and evaluation of the selected pretreatment technologies.

## II. The Agency Has Failed to Provide the Public with Sufficient Opportunity to Weigh in on the Development of the Pilot Project.

The administrative process leading up to the Pilot Plan has been unsatisfactory. The Agency's actions – and inaction – have raised serious concerns that the Agency is failing to uphold the public's right to weigh in on the design and location of the treatment system. This in turn has led to more public concern about the rigor which the Agency is overseeing the Pilot Plan and scrutinizing the Project.

The Pretreatment Permit, which Casella is currently operating under requires the company to pilot a leachate treatment system. Specifically, the Pretreatment Permit requires Casella to submit a Pilot Plan in the form of an application to amend the current Pretreatment Permit.[13] Critically, this means that the Pilot Plan would therefore be subject to Agency review and approval, and all public notice, hearing, and comment provisions applicable to permit amendments. Once approved, the Pilot Plan would ultimately determine the leachate treatment system that Casella is required to install and operate, "in accordance with the approved plan", per the Pretreatment Permit.

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[10] See, e.g., U.S Environmental Protection Agency, Landfill Effluent Guidelines. Available at https://www.epa.gov/eg/landfills-effluent-guidelines; and U.S. Environmental Protection Agency, Effluent Guidelines Program Plan 15. Available at https://www.epa.gov/eg/current-effluent-guidelines-program-plan

[11] April Reese, Some Landfills Will Begin Treating PFAS On-Site As Regulators Move to Adopt New Limits, Waste Dive. (Jan. 17, 2023). Available at https://www.wastedive.com/news/pfas-landfill-leachate-epa-casella-waste-connections/639462/#:~:text=The%20next%20year%2C%20a%20report,other%20plants%20in%20the%20state.

[12] Maine Resolves 2021, Ch. 172. (May 2, 2022)

[13] Agency of Natural Resources, Pretreatment Discharge Permit for New England Waste Services of Vermont, Permit No. 3-1406, Section 5, Pg. 8. Available at https://anrweb.vt.gov/Pubdocs/DEC/ENB/WWINV/21339-3-1406_DraftPermit.20231107.pdf

After the Pretreatment Permit was issued – but before the Agency approved Casella's Pilot Plan for the development of a leachate treatment system – the Agency granted Casella a Solid Waste Management Facility Certification Amendment, Permit No. OL510-2022-28 (the "Facility Amendment"). The Facility Amendment authorized Casella to construct a building at the Coventry Landfill that would house the leachate treatment system. The details of this system were still entirely unknown, since the Pilot Plan had not yet been released to the Agency, let alone to the public. We expressed in our joint letter submitted on January 4, 2023, that the Agency put the cart before the horse by allowing on-site construction of the treatment system building before the Pilot Plan was even released, reviewed by the public, and approved by the Agency.[14]

More recently, as expressed in our letter to the Department on Oct. 12, 2023, we discovered that Casella had surreptitiously constructed and begun operating a leachate treatment system before the Agency had approved the Pilot Plan, and before the public had the opportunity to weigh in via their procedural right to public comment and a hearing.[15] We underscored in that letter that the Agency should halt operations of the treatment system until the Pilot Plan underwent its due process, and thereby hold Casella to comply with the terms of their Pretreatment Permit. The Agency declined to take such action, and the system remains operational.

We will not repeat our detailed explanation of Casella's violation of their permit terms. However, we remain concerned about the Agency's ability to critically review the proposed Pilot Plan given Casella has already constructed and begun operation of the leachate treatment system. We hope the Agency will allay these concerns and demonstrate that they are indeed giving the public comment period true weight by seriously considering each comment and incorporating those with merit into the final review of the Pilot Plan. Specifically, we ask that the Agency show this commitment by requiring significant changes in the Pilot's design if that is necessary to best protect public health and the environment; anything less would be an abdication of the Agency's duty.

## III. The Agency Must Take a More Active Role in the Development, Implementation, and Review of the Pilot Project.

The Pretreatment Permit and the Pilot Plan do not include conditions that are necessary to ensure the Agency is properly scrutinizing the proposed treatment system or regulating the operation of the chosen treatment system. This is extremely concerning given that the results of the Pilot Plan will have significant impacts on the development of regulations regarding PFAS and landfill leachate in Vermont. Given the extensive and well-documented evidence regarding the widespread environmental and public health impacts associated with exposure to PFAS, as well as the role landfill leachate plays in the release of these toxic compounds into the environment,

[14] *See* Conservation Law Foundation's and Just Zero's letter, "Re: Coventry Landfill Permits: Solid Waste Management Facility Certification Amendment, OL510-2022-28 and Pretreatment Discharge Permit No. 3-1406", dated Jan. 4, 2023.
[15] *See* CLF's, Just Zero's and Vermont Natural Resources Council's letter, "Re: Violations of Permit No. 3-1406 and State Law – New England Waste Services of Vermont, Inc.'s Leachate Treatment Pilot Study Plan", dated Oct. 12, 2023.

the Agency must set clear parameters for how it will evaluate the selected treatment system and determine whether it was successful or not.

**Currently, the Agency has not explained how it will evaluate the effectiveness of the piloted technology.** This is despite the Agency committing to utilizing the results of the Pilot Plan to establish a Technology Based Effluent Limit and/or treatment standard for PFAS in leachate.[16] Instead, the Agency has given Casella near absolute control over the selection and operation of a treatment system that will be used to inform the development of future regulations. This is unacceptable and inappropriate. Casella is a private, regulated entity and will be directly and financially impacted by the regulations that the Agency intends to develop using the results of the Pilot Plan. Casella should not be given carte blanche over a crucial project that will directly inform what those regulations require.

**Given the importance of the Pilot Plan, the Agency must establish clear criteria for how it will determine whether the chosen technology is successful or not.** These criteria should inform how the Agency evaluates the progress reports submitted by Casella during the duration of the pilot, and whether or not the chosen technology should be scaled to full system implementation and used to inform any further regulatory action regarding PFAS in landfill leachate. At a minimum, these criteria must include:

(1) What effluent concentrations are considered acceptable;
(2) The ability of the chosen treatment system to consistently and reliably meet the target effluent concentrations;
(3) Whether the selected treatment system can effectively remove additional conventional, nonconventional, and toxic compounds, including additional PFAS compounds that are not currently regulated in Vermont, and PFAS precursors;
(4) The quantity of residual waste, the concentration of PFAS in the residual waste, and whether the residual waste streams are capable of effective and environmentally sound management;
(5) Whether the chosen treatment system can be effectively scaled to treat all leachate generated at the landfill; and,
(6) The overall cost of the treatment system, which includes the cost of full-scale implementation, maintenance, and residual waste management.

Setting these parameters is necessary so that the public and the permittee understand how the Agency will evaluate the piloted technology and determine whether the technology is sufficient in treating leachate to remove the concentration of PFAS to a level and in a manner that is protective of the environment and public health.

**In terms of the target effluent concentrations, the Agency should utilize Vermont's Drinking Water Standard for PFAS, which is 20 ng/L or 20 parts per trillion ("ppt").[17]** In other words, successful pretreatment for the purpose of the Pilot Project – for this target effluent concentration criteria alone – would be based on the ability of the chose treatment system to

[16] Agency of Natural Resources, Pretreatment Discharge Permit for New England Waste Services of Vermont, Permit No. 3-1406, Section 5, Pg. 7. Available at https://anrweb.vt.gov/Pubdocs/DEC/ENB/WWINV/21339-3-1406_DraftPermit.20231107.pdf
[17] Water Supply Rule, 12-030-003 VT. Code R.

reduce the combined level of PFOA (perfluorooctanoic acid), PFOS (perfluorooctane sulfonic acid), PFHxS (perfluorohexane sulfonic acid), PFHpA (perfluoroheptanoic acid), and PFNA (perfluorononanoic acid) to 20 ppt or below.

In the absence of a public health standard, or any comparable surface water standard for PFAS, the drinking water standard is an appropriate success metric for evaluating pretreatment technologies. The Maine Legislature recently commissioned a study of available leachate pretreatment technologies.[18] The Maine Legislature limited the scope of the study to an evaluation of readily available treatment technologies that can reduce the concentration of six regulated PFAS to no more than 20 ppt, which is the Maine Interim Drinking Water Standard for PFAS.[19] Moreover, the Brown and Caldwell Conceptual Leachate Treatment Scoping Study for the New England Waste Services of Vermont Landfill analyzed at least one technology – Rochem Reverse Osmosis – on its ability to remove the Vermont regulated PFAS compounds from wastewater to levels below health advisory levels for drinking water.[20]

It is also important to note that Casella has publicly stated that the goal of the Pilot Plan is to reduce the concentration of regulated PFAS in landfill leachate to levels below Vermont's Drinking Water Standard. In an interview with Waste Dive, Samuel Nicolai, Casella's Vice President of Engineering and Compliance stated that with the Pilot Plan, the company is "aiming to try to get levels in leachate below laboratory detection limits, which are typically in that one to two ppt range."[21] In the same interview, Mr. Nicolai said that Casella "believe[s] we will be successful at doing that."[22]

## IV. The Proposed Foam Fractionation Treatment System Poses Serious Environmental and Public Health Concerns Which the Agency Must Address.

Casella proposes to utilize a foam fractionation system as the sole treatment technology for the duration of the Pilot Plan**.** However, Casella has failed to provide necessary data to support the use of this technology as the sole treatment method. In fact, there is minimal evidence to warrant the use of foam fractionation as a standalone leachate pretreatment technology. Moreover, the complex nature of landfill leachate may cause issues with the foam fractionation process thereby limiting the ability of the treatment technology to effectively remove and reduce PFAS from the material.

Additionally, the standalone foam fractionation system raises significant environmental and public health concerns which Casella has not adequately addressed. This includes concerns over the technology's ability to address the wide array of PFAS in the leachate, the ability to

[18] Maine Resolves 2021, Ch. 172. (May 2, 2022)
[19] *Id.*
[20] Brown and Caldwell, Conceptual Leachate Treatment Scoping Study for New England Waste Services of Vermont Landfill, p. ES-3. (Oct. 11, 2019). [ Hereinafter "Leachate Treatment Scoping Study"] Available at https://anrweb.vt.gov/PubDocs/DEC/SolidWaste/OL510/OL510%202019.10.15%20Conceptual_Leachate_Treatmnt_Scoping_Study.pdf
[21] April Reese, Some Landfills Will Begin Treating PFAS On-Site As Regulators Move to Adopt New Limits, Waste Dive. (Jan. 17, 2023). Available at https://www.wastedive.com/news/pfas-landfill-leachate-epa-casella-waste-connections/639462/#:~:text=The%20next%20year%2C%20a%20report,other%20plants%20in%20the%20state.
[22] *Id.*

effectively manage the residual waste which will contain extremely high levels of PFAS, and ineffective monitoring of air emissions.

Given these concerns, the Agency must reject the Pilot Plan. While foam fractionation may be a component of a larger treatment process, there is insufficient evidence to warrant the technology as a stand-alone treatment process. This is crucial given the Agency's goal of using the results of the Pilot Plan in the development of future regulation.

A. The Chosen Foam Fractionation Treatment System Is Unproven and Lacks Sufficient Data to Warrant Selection as a Standalone Treatment Technology.

**Casella has failed to provide necessary data to illustrate that foam fractionation is a proven and established method for treating landfill leachate to address the presence of PFAS.** Foam fractionation was not considered in the Brown and Caldwell Scoping Study because the technology was "not demonstrated with leachate or PFAS treatment to lower ppt concentrations."[23] Similarly, in 2020, the EPA formed the PFAS Innovative Treatment Team to explore innovative tools and methods for destroying or removing PFAS in various media and waste.[24] One of the evaluated waste streams was landfill leachate.[25] The EPA did not evaluate foam fractionation as a treatment system because the technology failed to meet the success criteria which included effectiveness, readiness, applicability, and safety outputs.[26] In fact, since the completion of the Brown and Caldwell Scoping Study in 2019, only a handful of studies have been published regarding foam fractionation as a means of addressing PFAS in landfill leachate. Many of the studies note that there are significant data gaps regarding the technology's effectiveness when addressing PFAS in a complex medium such as landfill leachate.

Casella's choice to use a foam fractionation system here appears to be entirely based on the results of an identical system at a landfill in Sweden. However, Casella has failed to provide any of the underlying data necessary to understand the actual results of the Swedish system. While the Pilot Plan mentions there was a bench study, notably, no data or findings from that study are included in Casella's submissions.

Additionally, the limited information Casella has provided shows that the case study in Sweden is not analogous to the situation at the Coventry Landfill. **The leachate generated at the Coventry Landfill – which will be subject to the Pilot Plan – contains PFAS levels that are significantly higher than the levels at the Swedish landfill.**

[23] Leachate Treatment Scoping Study, Section 2, p. 2-1. (Oct. 11, 2019).
[24] U.S. Environmental Protection Agency, PFAS Innovative Treatment Team. Available at https://www.epa.gov/chemical-research/pfas-innovative-treatment-team-pitt
[25] Brian Gullett, EPA PFAS Innovative Treatment Team Finding on PFAS Destruction Technologies, U.S. Environmental Protection Agency, p. 6. (Feb. 17, 2021). Available at https://www.epa.gov/sites/default/files/2021-02/documents/pitt_findings_toolsresources_webinar_02172021_final.pdf
[26] *Id.* at 9.

- The concentration levels of PFOA in the leachate at the Swedish landfill were 350 ppt.[27] The levels of PFOA at Coventry were 1,711 ppt.[28]
- The levels of PFHpA in the leachate at the Swedish landfill were 120 ppt.[29] The levels at Coventry are 720 ppt.[30]
- The levels of PFNA in the leachate at the Swedish landfill were 76 ppt.[31] The levels at Coventry are 863 ppt.[32]
- The level of PFHxS in the leachate at the Swedish landfill was 65 ppt.[33] The levels at Coventry are 378 ppt.[34]

Casella has not provided any evidence as to how the foam fractionation system would work when managing leachate that contains significantly higher concentrations of PFAS.

The use of the foam fractionation system at the Swedish landfill is documented in one research paper. Importantly, the paper is not peer-reviewed. Additionally, the authors of the research paper all have a clear conflict of interest in promoting the success of the foam fractionation treatment system. The lead author, David J. Burns, and one of the secondary authors, Peter J. C. Murphy, work for the company that manufactures and sells the treatment technology assessed in the study.[35] Another author, Helena M. Hinrichsen, works at the landfill where the technology was implemented.[36] The final author, Paul Stevenson, owns a private company that focuses on developing foam fractionation systems.[37] Clearly, the researchers all have a financial motive in presenting foam fractionation as a viable and effective method of treating landfill leachate to address PFAS. In fact, this pecuniary interest was disclosed in the research paper.[38]

The lack of unbiased data to support the use of a selected technology would be concerning in any instance, but it is especially problematic given the lack of peer-reviewed studies on the effectiveness of foam fractionation as a means of addressing PFAS in leachate.

B. <u>The Complex Nature of Landfill Leachate May Cause Issues with the Foam Fractionation Treatment Process</u>

Leachate is a highly variable liquid whose unpredictable composition can determine the success or failure of foam fractionation. This variability creates several additional concerns with the

[27] Brown and Caldwell, Leachate Treatment Study Plan for New England Waste Services of Vermont Landfill, Attachment A: SAFF Pilot Unit Information, Swedish Landfill Leachate, p. 12. (Revised Oct. 5, 2023).
[28] Brown and Caldwell, Leachate Treatment Study Plan for New England Waste Services of Vermont Landfill, Section 2.3: Treatment of Liquids and Residuals, p. 2-5. [Hereinafter "Leachate Treatment Study Plan."]
[29] Leachate Treatment Study Plan: Attachment A: SAFF Pilot Unit Information, Swedish Landfill Leachate, p. 12.
[30] Leachate Treatment Study Plan, Section 2.3: Treatment of Liquids and Residuals, p. 2-5.
[31] Leachate Treatment Study Plan: Attachment A: SAFF Pilot Unit Information, Swedish Landfill Leachate, p. 12.
[32] Leachate Treatment Study Plan, Section 2.3: Treatment of Liquids and Residuals, p. 2-5.
[33] Leachate Treatment Study Plan: Attachment A: SAFF Pilot Unit Information, Swedish Landfill Leachate, p. 12..
[34] Leachate Treatment Study Plan, Section 2.3: Treatment of Liquids and Residuals, p. 2-5.
[35] Burns, D. J., Hinrichsen, H. M., Stevenson, P., & Murphy, P. J. (2022). Commercial-scale remediation of per- and polyfluoroalkyl substances from a landfill leachate catchment using surface-active foam fractionation (SAFF®). Remediation Journal, 32(3), 139–150. https://doi.org/10.1002/rem.21720
[36] *Id.*
[37] *Id.*
[38] *Id.*

plan's limitations, including: the aforementioned lack of bench data and the lack of any contingency plan should the foam fractionation system fail to perform as proposed. Additionally, the Pilot Plan's current proposed sampling frequency needs to increase to adequately capture leachate's variability throughout the year.

Landfill leachate is a heterogenous makeup of organic and inorganic substances that can influence removal efficiencies.[39] With regard to removing PFAS in landfill leachate using foam fractionation, the separation process is based on the absorption of PFAS to the air-water interface of bubbles (that is, foam formation is a necessary part of the process).[40] Some PFAS, such as PFOA and PFOS, can cause foam formation, but it is dependent on numerous factors such as the concentration of PFAS, gas flow rate, pH, temperature, choice of surfactants, and the properties of the components being separated.[41] This long list of factors is concerning given that leachate properties inevitably vary.[42]

This unpredictability of success is exemplified in an Australian case study where leachate samples foamed poorly, and thus co-surfactants had to be added to make the system effective.[43] Certain waters can also require extended contact time with the reactor, adding to the cost and size of the system.[44]

**The Pilot Plan fails to lay out a contingency plan if the system or leachate at Coventry does not perform as they did in the Swedish study.** It is likely the results will not be comparable given that the leachate in the Swedish study and the leachate generated at Coventry are different and contain markedly different concentrations of PFAS and other organic and inorganic compounds. Therefore, a contingency plan is necessary. This contingency plan could include adding co-surfactants, for instance. That said, there is a lack of information regarding which surfactants work best and how effective they are.[45] The possibility of foam fractionation's ineffectiveness with Coventry's leachate underscores how important it is for the Agency to set performance levels and for Casella to provide evidence that foam fractionation is achieving those levels. Thus far, they have not provided any such evidence.

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[39] Zhang, M., Zhao, X., Zhao, D., Soong, T. Y., & Tian, S. (2023). Poly- and Perfluoroalkyl Substances (PFAS) in Landfills: Occurrence, Transformation and Treatment. *Waste management (New York, N.Y.)*, *155*, 162–178. https://doi.org/10.1016/j.wasman.2022.10.028

[40] *Id.*

[41] Morrison, A. B., Strezov, V., Niven, R. K., Taylor, M. P., Wilson, S. P., Wang, J., … & Murphy, P. (2023). Impact of salinity and temperature on removal of pfas species from water by aeration in the absence of additional surfactants: a novel application of green chemistry using adsorptive bubble fractionation. Industrial &Amp; Engineering Chemistry Research, 62(13), 5635-5645. https://doi.org/10.1021/acs.iecr.3c00150

[42] Kjeldsen, P., Barlaz, M. A., Rooker, A. P., Baun, A., Ledin, A., & Christensen, T. H. (2002). Present and long-term composition of msw landfill leachate: a review. Critical Reviews in Environmental Science and Technology, 32(4), 297-336. https://doi.org/10.1080/10643380290813462

[43] Buckley, T.; Karanam, K.; Han, H.; Vo, H. N. P.; Shukla, P.; Firouzi, M.; Rudolph, V. Effect of Different Co-Foaming Agents on PFAS Removal from the Environment by Foam Fractionation. Water Res. 2023, 230, 119532. https://doi.org/10.1016/j.watres.2022.119532

[44] *Id.*

[45] Vo, P. H. N., Buckley, T., Xu, X., Nguyen, T. M., Rudolph, V., & Shukla, P., Foam fractionation of Per- and Polyfluoroalkyl Substances (PFAS) in Landfill Leachate using Different Cosurfactants. Chemosphere, 310, 136869., (2023), https://doi.org/10.1016/j.chemosphere.2022.136869

C. Foam Fractionation as a Stand-Alone Treatment is Inadequate as it Fails to Remove Toxic Short-Chain PFAS and Precursors

Existing evidence around the limitations of foam fractionation also presents two glaring environmental and public health concerns. **First, foam fractionation does not capture short-chain PFAS, including those with proven toxicology. Second, foam fractionation barely captures PFAS precursors, which are likely to convert into regulated PFAS when processed through WWTPs.** These limitations warrant implementing an add-on treatment system, bio-pretreatment and reverse osmosis, as detailed below in Section V.

*i. Foam Fractionation Does Not Remove Short-Chain PFAS*

**Foam fractionation does not remove short-chain PFAS, some of which have been shown to be highly mobile, toxic, and dominant in wastewater.[46] The** dangers of certain short-chain PFAS are increasingly documented.[47] One study in the Chemical Engineering Journal found that short-chain PFAS compounds are "more widely detected, more persistent and mobile in aquatic systems, and thus may pose more risks on the human and ecosystem health" than long-chain compounds.[48]

While much research remains, two short-chain PFAS in particular have already been identified as toxic, perfluorobutanoic acid ("PFBA") and perfluorobutanesulfonic acid ("PFBS").[49] Both PFBS and PFBA are candidates for future USEPA regulation.[50] Both compounds are replacements for PFAS compounds that were phased out by manufacturers facing mounting scrutiny and regulation.[51] In the EPA's most recent Toxicological Review of PFBA they

[46] Runwei, L., MacDonald Gibson, J., Predicting the Occurrence of Short-Chain PFAS in Groundwater using Machine-learned Bayesian Networks, Frontiers. (Nov. 3, 2022). https://www.frontiersin.org/articles/10.3389/fenvs.2022.958784/full; Gobelius L, Glimstedt L, Olsson J, Wiberg K, Ahrens L. Mass Flow of Per- and Polyfluoroalkyl substances (PFAS) in a Swedish Municipal Wastewater Network and Wastewater Treatment Plant, Chemosphere. (Sep. 2023). https://pubmed.ncbi.nlm.nih.gov/37302497/

[47] Environmental Working Group, Study: Newer PFAS Chemicals 'May Pose More Risks' Than Those They Replaced. (Aug. 22, 2019). https://www.ewg.org/news-insights/news-release/study-newer-pfas-chemicals-may-pose-more-risks-those-they-replaced

[48] Li, F., Duan, J., Tian, S., Ji, H., Zhu, Y., Wei, Z., Zhao, D., Short-chain Per- and Polyfluoraklyl Substances in Aquatic Systems: Occurrence, Impacts and Treatment, Chemical Engineering Journal, Vol. 380, 122506. (Jan. 15, 2020). https://www.sciencedirect.com/science/article/abs/pii/S1385894719319096

[49] Chen, F., Wei, C., Chen, Q., Zhang, J., Wang, L., Zhou, Z.; Chen, M., Liang, Y., Internal Concentrations of Perfluorobutane Sulfonate (PFBS) Comparable to Those of Perfluorooctane Sulfonate (PFOS) Induce Reproductive Toxicity in Caenorhabditis Elegans. *Ecotoxicol. Environ. Saf.* **2018**, *158*, 223–229. https://doi.org/10.1016/j.ecoenv.2018.04.032; Gomis, M. I., Vestergren, R., Borg, D., Cousins, I. T, Comparing the Toxic Potency in Vivo of Long-Chain Perfluoroalkyl Acids and Fluorinated Alternatives. *Environ. Int.* **2018**, *113*, 1–9. https://doi.org/10.1016/j.envint.2018.01.011

[50] Desharnais, K., Fracassi, T., Ross, D., Guc, M., USEPA Advances Toward Regulation of PFAS in Drinking Water, Environmental Law and Policy Monitor. (Feb. 25, 2021). https://www.environmentallawandpolicy.com/2021/02/usepa-advances-toward-regulation-of-pfas-in-drinking-water/, "These are the PFAS compounds for which we are likely to next see regulatory action at the federal level."

[51] Environmental Working Group, The New Generation of 'Forever Chemicals' – Toxicity, Exposure, Contamination and Regulation. (May, 2021). https://www.ewg.org/news-insights/news/new-generation-forever-chemicals-toxicity-exposure-contamination-and-regulation

concluded, "the available evidence indicates that developmental, thyroid, and liver effects in humans are likely caused by PFBA exposure in utero or during adulthood."[52] PFBS health outcomes include developmental delays, effects on female reproductive organs, cellular changes to kidneys, effects on the liver and lipids, and most dramatically, effects on the thyroid.[53]

Based on evidence of human toxicity, the EPA has included PFBS in its proposed PFAS National Primary Drinking Water Regulation, which they anticipate finalizing by the end of 2023, and which they have predicted "will prevent thousands of deaths and reduce tens of thousands of serious PFAS-attributable illnesses."[54] In short, the data and regulatory tide are clear: PFBS and PFBA, two short-chain PFAS compounds, are toxic and will, in the near future, be federally regulated. Critically, neither of these compounds are captured by foam fractionation despite being abundant in Coventry's leachate.

In the Brown and Caldwell Scoping Study, both PFBA and PFBS were identified in the untreated landfill leachate at Coventry.[55] In fact, PFBA had the highest concentration of all PFAS compounds identified in that raw leachate.[56] This is typical of landfill leachate. In a study of PFAS in leachate of 22 landfills in Germany, the dominating compounds in the untreated leachate were PFBA and PFBS.[57] In the Montpelier WWTP – where both the pretreated and untreated Coventry landfill leachate will go – as is the case with all WWTPs, short chain PFAS dominate the influent and effluent.[58] Foam fractionation is ineffective at capturing short-chain PFAS, and specifically does not capture PFBA and PFBS.[59] In a study examining leachate treatment in Florida at an active municipal solid waste landfill, foam fractionation could not effectively remove PFBA or PFBS at the pilot scale.[60] This limitation was also acknowledged by

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[52] U.S. Environmental Protection Agency, IRIS Toxicological Review of Perfluorobutanoic Acid (PFBA, CASRN 375-22-4) and Related Salts. (Dec. 2022). https://cfpub.epa.gov/ncea/iris/iris_documents/documents/toxreviews/0701tr.pdf

[53] U.S. Environmental Protection Agency, Technical Fact Sheet: Toxicity Assessment for PFBS. (April, 2021). https://ofmpub.epa.gov/eims/eimscomm.getfile?p_download_id=542401

[54] U.S. EPA, PFAS: PFOA and PFIS National Primary Drinking Water Regulation Rulemaking, Docket ID: EPA-HQ-OW-2022-0114. (Mar. 14, 2023). https://www.regulations.gov/docket/EPA-HQ-OW-2022-0114/unified-agenda

[55] Leachate Treatment Scoping Study, Attachment A, Estimated Raw Leachate Loads, p. 3. (Oct. 11, 2019).

[56] *Id.*

[57] Busch, J., Ahrens, L., Sturm, R., Ebinghaus, R., Polyfluoroalkyl Compounds in Landfill Leachates. Environ Pollution. (May, 2010). https://pubmed.ncbi.nlm.nih.gov/20053490/#:~:text=The%20dominating%20compounds%20in%20untreated,(PFBS)%20(24%25).

[58] Weston & Sampson, Poly-and Perfluoroalkyl Substances at Wastewater Treatment Facilities and Landfill Leachate, 2019 Summary Report. https://dec.vermont.gov/sites/dec/files/wmp/SolidWaste/Documents/02.03.20_PFAS%20in%20LF%20and%20WWTF%20Final%20Report.pdf

[59] Robey, N. M., da Silva, B. F., Annable, M. D., Townsend, T. G., Bowden, J. A., Concentrating Per- and Polyfluoroalkyl Substances (PFAS) in Municipal Solid Waste Landfill Leachate Using Foam Separation. Environ. Sci. Technol. 2020, 54 (19), 12550–12559. (Aug. 31, 2020). https://doi.org/10.1021/acs.est.0c01266

[60] Smith, S. J., Wiberg, K., McCleaf, P., Ahrens, L. Pilot-Scale Continuous Foam Fractionation for the Removal of Per- and Polyfluoroalkyl Substances (PFAS) from Landfill Leachate. ACS EST Water, *2* (5), 841–851. (May 4, 2022) https://doi.org/10.1021/acsestwater.2c00032

SAFF® (the specific foam fractionation technology proposed in the Pilot Plan) when discussing the technology's use at commercial scale.[61]

Installing a system that cannot remove these short-chain compounds is shortsighted and a shirking of the Agency's duty to protect the environment and public health. Practically speaking, it may very well result in a huge investment in a system that will be unable to comply with federal regulation in the very near future. A treatment train that would address these compounds, in addition to the five PFAS compounds currently regulated in Vermont, is described in Section VI.

*ii. Foam Fractionation Does Not Address PFAS Precursors That Are in the Target Leachate*

**An equally alarming defect in the Pilot Plan is that foam fractionation is unlikely to capture PFAS precursors.[62]** This is particularly problematic given that such precursors can form regulated PFAS through processing at the Montpelier WWTP, thereby undermining this entire effort to extract even the currently regulated list of five PFAS compounds from Coventry's leachate.

Landfill leachate contributes high concentrations of precursors to WWTPs.[63] The leachate transmits these PFAS precursors to WWTPs, at which point the precursors convert to identifiable PFAS, including those currently regulated in Vermont. A study commissioned by the Vermont Department of Environmental Conservation found that "Total Oxidizable Precursors Assay ("TOPA") data" indicates that "precursors may be the predominant source of PFAS in wastewater."[64] This is alarming because precursors are likely to convert into regulated PFAS during their processing at the receiving WWTP.

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[61] Yang Y., Holsen., T, Review of Leachate Treatment Study Plan for New England Waste Services (NEWSVT) Landfill As Required by Condition I.A.5 of the State of Vermont Agency of Natural Resources Department of Environmental Conservation Watershed Management Division Pretreatment Discharge Permit 301406, 4. (Dec. 7, 2023). Available in Attachment A to this Comment. [*Hereinafter*, "Expert Report, Attachment A".]

[62] PFAS precursors are compounds that include fluorotelomers and perfluorinated sulfonamides which can interact and form identifiable PFAS compounds that include can include the five PFAS compounds regulated in Vermont.

[63] Bolan, N., Sarkar, B., Yan, Y., Li, Q., Wijesekara, H., Kannan, K., Tsang, D. C. W., Schauerte, M., Bosch, J., Noll, H., Ok, Y. S., Scheckel, K., Kumpiene, J., Gobindlal, K., Kah, M., Sperry, J., Kirkham, M. B., Wang, H., Tsang, Y. F., … Rinklebe, J. (2021). Remediation of Poly- and perfluoroalkyl substances (PFAS) Contaminated Soils – to Mobilize or to Immobilize or to Degrade? Journal of Hazardous Materials, 401, 123892. https://doi.org/10.1016/j.jhazmat.2020.123892; Liu, Y., Robey, N. M., Bowden, J. A., Tolaymat, T. M., da Silva, B. F., Solo-Gabriele, H. M., & Townsend, T. G. (2020). From waste collection vehicles to landfills: Indication of per- and polyfluoroalkyl substance (PFAS) transformation. Environmental Science & Technology Letters, 8(1), 66–72. https://doi.org/10.1021/acs.estlett.0c00819

[64] Weston & Sampson, Summary Report for the Vermont Department of Environmental Protection: Poly-and Perfluoroalkyl Substances Inputs to Wastewater Treatment Facilities, Section 1, p. 1-1. (Mar. 26, 2022). Available at, https://dec.vermont.gov/sites/dec/files/wmp/residual/2021%20VTDEC%20PFAS%20Inputs%20to%20WWTF%20Study.2022March29.pdf

**It is now well established that WWTPs convert unidentified precursors in the influent into identified PFAS in their effluent, including those currently regulated in Vermont.**[65] In a recent study of three WWTPs, PFHxA, PFOA, PFHxS, and PFOS had net mass *increases* in the effluent by on average 83%, 28%, 37%, and 58%, respectively.[66] PFOA, PFOS, and PFHxS are currently regulated in Vermont. If precursors are not accounted for and adequately removed during the leachate pretreatment process, the leachate will likely continue to burden the receiving WWTP with influent that will become effluent containing currently regulated PFAS compounds — and in so doing they would continue to pollute the Winooski River and thereby harm Vermonters and Vermont's natural resources.

**Foam Fractionation is unlikely to adequately remove precursors.**[67] At best it would remove 10-40% of precursors, based on a study conducted in Sweden in 2021.[68] Moreover, as it currently stands, Casella has not provided the results of their non-targeted TOPA results, and has stated that they will not be conducting more TOPA testing[69] throughout their pilot despite the known variability of leachate.[70] Their postponement of providing such data is very concerning, as is their lack of intent to continue to test the leachate for precursors, both before and after treatment. Just as they failed to provide any bench data, they also failed to demonstrate what precursors were found with TOPA testing and are clear that they will not be doing further testing of precursors in their pilot. This is all the more troubling when coupled with the fact that they propose to use a stand-alone foam fractionation system that will not extract the precursors.

At a minimum, Casella must conduct TOPA testing throughout the duration of the Pilot Plan. TOPA testing should focus on identifying the specific compounds produced by the TOPA oxidation process. Additionally, as discussed in Section V, the Agency should require the adoption of Reverse Osmosis as an add-on treatment given that it has been shown to target precursors as well as long-chain and short-chain PFAS. Importantly, the TOPA testing should be conducted both before and after the Reverse Osmosis treatment.

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[65] *See* Expert Report, Attachment A, at 2, citing Phong Vo, H. N., Ngo, H. H., Guo, W., Hong Nguyen, T. M., Li, J., Liang, H., Deng, L., Chen, Z., Hang Nguyen, T. A. Poly-and Perfluoroalkyl Substances in Water and Wastewater: A Comprehensive Review from Sources to Remediation. J. Water Process Eng., 36, 101393. (Aug. 2020) https://doi.org/10.1016/j.jwpe.2020.101393

[66] Eriksson, U., Haglund, P., Kärrman, A. Contribution of Precursor Compounds to the Release of Per- and Polyfluoroalkyl Substances (PFASs) from Wastewater Treatment Plants (WWTPs). J. Environ. Sci. 61, 80–90. (2017) https://doi.org/10.1016/j.jes.2017.05.004

[67] McCleaf, P.; Kjellgren, Y.; Ahrens, L. Foam Fractionation Removal of Multiple Per- and Polyfluoroalkyl Substances from Landfill Leachate. AWWA Water Sci., 3 (5), e1238. (Sept. 2021) https://doi.org/10.1002/aws2.1238

[68] *Id.*

[69] TOPA is a method used to quantitatively characterize how many unknown precursors there are in fluid or water. Running such an analysis would enable the permit applicant to determine if precursors are present in the leachate, and if so, if they are being caught by the treatment system proposed in our comment and in the Expert Report, Attachment A.

[70] *See* New England Waste Services, Inc. Letter to Ms. Amy L. Polaczyk, Pretreatment Permit #3-1406, Response to Preliminary Comments, July 20, 2023, 4., (Oct. 5, 2023), "TOP Assay Results were previously collected during the Bench Scale study and will be provided in the final report. NEWS is not planning to collect additional samples for TOP assay testing during the pilot study." Available at: 21339-NEWS response cover to ANR July 20 preliminary rfmi.pdf (vt.gov)

D. The Proposed Residual Management Plan is Unproven and Likely to Result in Leaching PFAS back into the Landfill.

Foam fractionation results in a residual waste called foamate. This foamate will contain significantly elevated concentrations of PFAS. How these materials are managed is imperative to minimize the risk of cycling and the release of PFAS into the environment. The Pilot Plan proposes to "solidify" foamate by mixing it with Portland cement or "similar" compounds.[71] The subsequent mixture will then be landfilled.[72] Casella argues that this residual management plan is sufficient to "minimize potential cycling."[73] However, Casella has not provided any evidence to support the conclusion that the proposed residual management plan will effectively sequester PFAS. In fact, there is significant data suggesting that PFAS will in fact leach out, increasing the risk of environmental contamination and the likelihood of increased PFAS levels in the leachate moving forward.

**The use of Portland cement or a similar compound to encapsulate the PFAS in foam fractionate to minimize potential recycling is an unproven technology with no supporting publications or reports that demonstrate that this method would be successful.**[74] Currently, there is no official EPA guidance for the disposal of PFAS in foamate. We could not find a single publication citing data on using PFAS-laden foam fractionation liquid in a Portland cement mix. The single publication on the use of cement to solidify PFAS showed that leaching of long-chain PFAS decreased while the leaching of short-chain PFAS actually increased.[75]

Conversely, there are numerous publications for comparable classes of compounds that cast serious doubt on the solidification proposal's efficacy. One report found that "PAHs (polycyclic aromatic hydrocarbons) leach to a relatively high extent" after solidification, and another showed that concentrations for adsorbable organic halogens ("AOX") in pulp and paper were above regulatory levels after being solidified in cement.[76] Because most PFAS are AOX (halogenated substances that are adsorbed from water onto activated carbon), it is logical to extrapolate that the proposed Portland cement (or similar) mixture will fail to contain the PFAS and these toxic chemicals will leach back into the landfill. [77] Such leaching would see PFAS reenter the leachate stream and pose higher risk of environmental contamination.[78] Alarmingly, the Pilot Plan also

[71] Leachate Treatment Pilot Plan, Section 2.4: Liquids and Residuals Management, p. 2-5.
[72] *Id.*
[73] *Id.*
[74] Expert Report, Attachment A, p. 5.
[75] *Id.*, citing Bierbaum, T., Klaas, N., Braun, J.; Nürenberg, G., Lange, F. T., Haslauer, C., Immobilization of Per- and Polyfluoroalkyl Substances (PFAS): Comparison of Leaching Behavior by Three Different Leaching Tests. *Sci. Total Environ.*, *876*, 162588. (2023). https://doi.org/10.1016/j.scitotenv.2023.162588
[76] *Id.,* citing Mulder, E., Brouwer, J. P.;, Blaakmeer, J., Frénay, J. W. Immobilisation of PAH in Waste Materials. *Waste Manag*, *21* (3), 247–253. (2001). https://doi.org/10.1016/S0956-053X(00)00097-0. and Yilmaz, O., Ünlü, K., Cokca, E. Solidification/Stabilization of Hazardous Wastes Containing Metals and Organic Contaminants. *J. Environ. Eng.*, *129* (4), 366–376. (2003) https://doi.org/10.1061/(ASCE)0733-9372(2003)129:4(366)
[77] Expert Report, Attachment A, p. 5.
[78] *Id.*

cites there will be "spent cartridge filter that may contain elevated concentrations of PFAS" but does not explain how these filters will be managed.[79]

**A safer and more effective residual management methodology for foamate is electrochemical oxidation ("EO") and plasma discharge ("plasma").** Additionally, these residual management methodologies are also effective at addressing the residual waste from our suggested treatment chain as described in Section V. Electrochemical oxidation, an advanced oxidation process, is an efficient method for destroying PFAS in water, resulting in degradation of both long- and short-chain PFAS.[80] Plasma-based treatment uses electrical discharge plasma to convert water into a mixture of highly reactive species, which rapidly and non-selectively degrade a broad spectrum of PFAS.[81]

Estimates for how much foamate EO and plasma would be treating, if adopted as residual management technologies, are provided in the attached Expert Report. Both EO and plasma are commercially viable options for residuals management that would limit the potential of leachate recycling back into the leachate stream and exposing communities and the environment to undue risk.[82] The Agency should require a residuals management plan that will actually accomplish this goal. Additionally, the Agency should require Casella to explain how they intend to manage the spent cartridge filters they reference in the Pilot Project.

E. Casella Has Failed to Adequately Address the Concerns Over Air Emissions Associated with the Selected Treatment System.

**Air emissions containing various toxics, including PFAS, semi-volatile organic compounds ("SVOCs") and volatile organic compounds ("VOCs"), from the proposed foam fractionation system are anticipable and should be tested for.** Air supply for the foam fractionation treatment unit will be pulled in from outside air and then exhausted to ambient air after passing through a vapor phase granular activated carbon ("GAC") unit to remove potential residual VOCs and odor compounds including hydrogen sulfide.[83] While the inclusion of the GAC system is a welcome addition, more monitoring is necessary to fully understand the air emission risks associated with this treatment technology. This is especially true given that one of the underlying goals of the Pilot Plan is to determine whether the chosen treatment system should be scaled up to manage all leachate. A key parameter in understanding whether the technology warrants scaling is the associated air emissions.

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[79] Leachate Treatment Pilot Plan, Section 2.4: Liquids and Residuals Management, p. 2-5.
[80] Smith S. J., Lauria, M., Ahrens, L., McCleaf, P., Hollman, P., Seroka, S. B., Hamers, T., Arp, H. P., Wiberg, K., Electrochemical Oxidation for Treatment of PFAS in Contaminated Water and Fractionated Foam—A Pilot-Scale Study, ACS EST Water. (Mar., 2023) https://doi.org/10.1021/acsestwater.2c00660
[81] Sunka, P., Babický, V., Clupek, M., Lukes, P., Simek, M., Schmidt, J., and Cernak, M., . Generation of Chemically Active Species by Electrical Discharges in Water. Plasma Sources Science and Technology, 8(2), pp. 258-265. (1999) https://doi.org/10.1088/0963-0252/8/2/006; Singh, R.K., Multari, N., Nau-Hix, C., Anderson, R.H., Richardson, S.D., Holsen, T.M. and Mededovic Thagard, S.,. Rapid Removal of Poly- and Perfluorinated Compounds from Investigation-Derived Waste (IDW) in a Pilot-Scale Plasma Reactor. Environmental Science and Technology, 53(19), pp.11375-11382, (2019) https://doi.org/10.1021/acs.est.9b02964
[82] *Id.*
[83] Leachate Treatment Study Plan, Section 2.11.1: Air Emissions, p. 2-9.

Determining if any PFAS, SVOCs or VOCs will be discharged through the stack gas after carbon absorption during the pilot system's continued operation is critical to protecting Vermont's environment and nearby communities. Research has shown elevated airborne PFAS concentrations from foam fractionation that "have implications for worker safety and prevention of PFAS-emissions to the atmosphere."[84] While stack emissions testing methodology is still being finalized, conducting such testing would nonetheless provide valuable data on the project's PFAS air emissions. The recommended methodology here is Other Test Method 45, (OTM-45) Measurement of Selected Per- and Polyfluorinated Alkyl Substances from Stationary Sources. Additionally, "there are relatively simple and proven air sampling techniques that should be employed" to test for PFAS.[85] These techniques are described in Expert Report, Attachment A, page 4, and include: collecting air samples using high-volume air samplers, and simple wipe tests.[86] These latter methods are cost-effective and still add safeguards while also helping identify the air emissions associated with the proposed treatment system.

Unfortunately, leachate contains various other potentially harmful SVOCs and VOCs that are likely to be removed by the foam fractionation process and born into the atmosphere though the off-gas. "A global survey of the VOCs and SVOCs in leachate from 103 landfill sites combined with 27 published manuscripts on leachate treatment showed that polycyclic aromatic hydrocarbons ("PAHs"), phthalate acid esters ("PAEs"), and phenols were the most frequently detected SVOCs in leachate."[87] Alarmingly, four VOCs (toluene, ethylbenzene, xylenes, and benzene) in particular were commonly detected at high concentrations.[88] All of these compounds would likely be removed from the leachate during foam fractionation and could end up in the gas phase, potentially leaving the system, and posing an environmental and public health threat necessitating monitoring. Recommended monitoring methods include EPA Methods TO-4A and TO 13A for SVOCs and TO-14, TO-15 or TO-17 for VOCs.[89] The above testing is the necessary route for the Agency to take—or have Casella take—in carrying out the Agency's mission of protecting natural resources and human health.

## V. Recommended Treatment Chain

Based on extensive research by both our in-house and contracted experts, we recommend a leachate treatment system that would drastically reduce the current list of five regulated PFAS compounds, as well as both toxic short-chain PFAS, and precursors that will likely convert into regulated PFAS compounds upon processing at a WWTP. Specifically, these additional treatment

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[84] Smith, S. J., Lewis, J., Wiberg, K., Wall, E., & Ahrens, L., Foam fractionation for removal of per and polyfluoroalkyl substances: Towards closing the mass balance. Science of The Total Environment, 871, 162050. (2023) https://doi.org/10.1016/j.scitotenv.2023.162050

[85] Expert Report, Attachment A, p. 4.

[86] *Id.*, citing, Barber, J. L., Berger, U., Chaemfa, C., Huber, S., Jahnke, A., Temme, C., Jones, K. C. Analysis of Per- and Polyfluorinated Alkyl Substances in Air Samples from Northwest Europe. *J. Environ. Monit.* **2007**, *9* (6), 530–541, (2007) https://doi.org/10.1039/B701417A and Young, A. S., Sparer-Fine, E. H., Pickard, H. M., Sunderland, E. M.; Peaslee, G. F.; Allen, J. G. Per- and Polyfluoroalkyl Substances (PFAS) and Total Fluorine in Fire Station Dust. *J. Expo. Sci. Environ. Epidemiol.*, *31* (5), 930–942, (2021) https://doi.org/10.1038/s41370-021-00288-7.

[87] Expert Report, Attachment A, p. 4.

[88] He, X-s., Pan, Q., Xi, B-D., Zheng, J., Liu, Q-Y., Sun, Y., Volatile and semi-volatile organic compounds in landfill leachate: Concurrence, removal and the influencing factors. Water Research 245 (2023) 120566

[89] *Id.*

technologies should be composed of both biological pretreatment ("bio-pretreatment") and reverse osmosis ("RO").[90] **A combination of bio-pretreatment and RO alongside the existing foam fractionation system would provide a safer and more established and reliable form of treatment than a standalone foam fractionation system.**

Given that the foam fractionation system is already in operation, adding bio-pretreatment and RO would serve as a critical upgrade to the system, without the need to tear down the operational foam fractionation system. Bio-pretreatment enhances the performance of RO as it breaks down organics to lessen the chance of the membrane in the RO system fouling and improves the overall performance of the RO membrane system.[91] A membrane bioreactor will ensure that the RO unit described next functions to the best of its ability.

RO is a well proven process to remove PFAS of all chain lengths from raw leachate, including the five compounds currently regulated in Vermont.[92] RO has also been shown to effectively remove precursors.[93] Unlike foam fractionation, whose shortcomings and lack of evidence we have outlined above, RO has been an established methodology for separating PFAS from landfill leachate for over two decades. Guiding details for the recommended treatment are laid out in the Expert Report, attached. Notably, in the Scoping Study conducted by Brown and Caldwell which initiated this entire pilot project, the authors concluded that RO was the best available technology for effectively removing targeted PFAS down or even "below health advisory levels for drinking water.[94]

RO results in a concentrated stream that would contain a high concentration of PFAS, known as "RO concentrate." The recommended treatment to destroy PFAS in such concentrate is EO and plasma.[95] As discussed in Section VI, these are the same residuals management methods recommended for the foamate produced by the foam fractionation system. The attached Expert Report provides a more detailed account for designing of both the EO and plasma treatment systems that are capable and necessary to addressing the residuals of both the proposed foam fractionation system, as well as the recommended RO system.[96]

## VI. Conclusion

We strongly support the Agency's work to develop a treatment system and subsequent regulations to address the presence of toxic PFAS compounds in landfill leachate. Moreover, we believe that a robust, and well-designed and monitored pilot project is an important step in this process. However, as currently drafted both the Pretreatment Permit and the Pilot Plan are

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[90] Expert Report, Attachment A, p. 5-6.
[91] Expert Report, Attachment A, p. 5; Hu, J. Y., Song, L. F., Phua, E. T., Ng, J. W., Biofiltration Pretreatment for Reverse Osmosis (RO) Membrane in a Water Reclamation System, Chemosphere. (Mar. 2005). https://pubmed.ncbi.nlm.nih.gov/15698653/
[92] Chianese, A.; Ranauro, R., Verdone, N. Treatment of Landfill Leachate by Reverse Osmosis, *Water Res.*, *33* (3), 647–652. (1999) https://doi.org/10.1016/S0043-1354(98)00240-1
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[94] Leachate Treatment Scoping Study, Executive Summary, p. ES-3.
[95] Expert Report, Attachment A, p. 6.
[96] Expert Report, Attachment A, p. 7-9.

insufficient. We strongly urge the Agency to adopt the recommendations contained in these comments.

Respectfully submitted,

Peter Blair, Esq.
Policy and Advocacy Director
Just Zero

Nora Bosworth, Esq.
Staff Attorney
Conservation Law Foundation

**Attachment A:**

**Yang Y., Holsen., T, Review of Leachate Treatment Study Plan for New England Waste Service Landfill as Required by Condition I.A.5 of the State of Vermont Agency of Natural Resources Department of Environmental Conservation Watershed Management Division Pretreatment Discharge Permit 3-1406 (Dec. 7, 2023)**

**Review of "Leachate Treatment Study Plan for New England Waste Services (NEWSVT) Landfill As Required by Condition I.A.5 of the State of Vermont Agency of Natural Resources Department of Environmental Conservation Watershed Management Division Pretreatment Discharge Permit 3-1406. Revised December 7, 2023 Project Number: 157518"**

Yang Yang, Ph.D.; Thomas Holsen, Ph.D.

## 1. Synopsis of Treatment Process.

This synopsis summarizes key information related to PFAS monitoring and treatment from the document (denoted as "**study plan**" in the following content). In the study plan, the proposed foam fractionation (FF) treatment system will treat leachate from the existing NEWSVT leachate storage tanks. Raw leachate will be pumped from the onsite leachate storage tanks to the treatment system, and treated leachate will be returned to the storage tanks prior to disposal. The expected system capacity for treatment is up to 75,000 gpd. The anticipated PFAS concentration in leachate is listed below.

| Parameter | Units | Average Concentrations |
|---|---|---|
| Perfluoroheptanoic acid (PFHpA) | ng/L | 710 |
| Perfluorohexane sulfonic acid (PFHxS) | ng/L | 378 |
| Perfluorononanoic acid (PFNA) | ng/L | 863 |
| Perfluorooctanesulfonic acid (PFOS) | ng/L | 214 |
| Perfluorooctanoic acid (PFOA) | ng/L | 1,711 |

*ng/L = nanograms/liter*

Exhaust gas will pass through a granular activated carbon (GAC) unit. PFAS in exhaust gas will not be monitored. Foamate will be solidified by Portland cement and then returned to landfill. Testing of leaching of PFAS from the cement was not planned.

In general, we agree that FF is a plausible component of PFAS treatment. The following content provides concerns about the feasibility, safeguards, and efficacy of the current plan and technical recommendations for the removal and destruction of PFAS beyond those listed in the VT5.

## 2. Concerns about incomplete coverage of PFAS and inadequate removal of precursors

EPA Method 1633 is a cornerstone for the environmental surveillance study of PFAS. All the listed PFAS that can be quantified by this method have the potential to be regulated in the future upon further

investigation of toxicity and risk assessment. The EPA Method 1633 covers 40 PFAS; $C_{n=3-9}$ perfluorinated carboxylates (n refers to the number of fluorocarbons), $C_4$-$C_{10}$ perfluorinated sulfonates, fluorotelomers (4:2, 6:2, and 8:2), and precursors have been detected in leachate.[1,2] The concentrations of these dominant compounds range from 10-$10^4$ ng/L in the USA. Notably, short-chain PFAS ($C_{n=3-7}$) have concentrations commensurate with perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS).[3,4]

As will be discussed below, the FF method is inefficient in removing short-chain PFAS as well as precursors that can be converted into the VT5 during wastewater treatment plant (WWTP) processing. Thus, we conclude that the scope of work on monitoring VT5 in the pilot-scale study is concerningly limited as the number of regulated PFAS compounds continues to increase at federal and state levels, and the failure to ensure extraction of precursors could undermine the entire stated goal of the system—providing WWTPs with leachate free of the VT5. Increasing regulation of PFAS should be anticipated for and used to evaluate this system. In addition, the non-targeted total oxidizable precursors assay (TOPA) should be included, and the specific compounds produced by the TOPA oxidation process should be determined. TOPA is a method used to quantitatively characterize how many unknown precursors there are in fluid or water. Running such an analysis would enable the permit applicant to determine if precursors are present in the leachate, and if so, if they are being caught by the expanded treatment system proposed below.

It is well known that WWTPs convert unidentified precursors into identified PFAS, including those on the VT5 list.[5] For example, in a recent study of three WWTPs, perfluorohexanoic acid (PFHxA), PFOA, perfluorohexanesulfonic acid (PFHxS), and perfluorooctane sulfonic acid (PFOS) had a net mass increases in the effluent of on average 83%, 28%, 37%, and 58%, respectively.[6] If unidentified precursors are not removed, the release of treated water to the WWTP and the conversion of those compounds into regulated PFAS in the WWTP could cause the release of those compounds in the WWTP effluent. The proper route to avoid this potential violation and public health hazard is to employ the TOPA method to figure out if precursors are present in the leachate, and if they are being removed by the reverse osmosis system proposed below; notably, foam fractionation alone would likely not remove such precursors.[7]. However, there is evidence that reverse osmosis also removes precursors.[8] The necessity to remove precursors is further reason to expand the treatment system from foam fractionation alone, to the reverse osmosis system outlined below.

In addition to the inadequate coverage of target PFAS, the treatment end goals for removing the VT5 are unclear. There are no success criteria established for this study. What effluent concentrations,

treatment capacity, treatment costs, and reliability must be met for the FF process to be considered acceptable? Specifically for effluent concentrations, the values in the water treatment plant (WWTP) permit for effluent testing of target MDL for PFHxS, PFHpA, PFNA, PFOS, and PFOA of no greater than 20 ng/L would be appropriate to align with Vermont's drinking water standards.

**3. Concerns about FF performance**

The study plan demonstrated the performance of FF by showing the efficacy of treating Swedish landfill leachate. Although there is a mention that there was a bench study, notably, no data or findings from that study are included. The lack of bench data is concerning because several of the PFAS are present at concentrations that are near an order of magnitude higher than found in the Swedish study. The Australian feed water had higher concentrations, so it's more of an analog, but it still underscores the importance of bench-scale proof of concept testing. More difficult waters may require more reactor contact time, which increases the size and cost of the system. For example, a case study in Australia showed that the leachate samples had poor foamability. The FF was only functional when co-foaming surfactants were added. [9] There is no such contingency plan laid out in the Pilot plan, despite the possibility that the leachate may not foam as expected. As of now, there is no proof that the SAFF FF system used in the Swedish study works on the leachate generated at Coventry, either at the bench scale or at a larger scale. Such evidence should be provided before the study plan is approved.

It is well known that leachate characteristics vary throughout the year. This is acknowledged in Section 1.2, where it is stated that "the treatment system will be operated under a variety of conditions to evaluate its response to temporal variations in leachate quality and key operational parameters." However, the current sampling frequency proposed is insufficient to ensure that the effect of the variability in leachate quality throughout the year on removal rates is properly evaluated. Moreover, as mentioned above, no contingency plan was provided in case the leachate has no or less-than-ideal foaming potential. Such a contingency plan could include, but not be limited to, adding co-foaming surfactants.

Notably, even if the FF functions as the applicant proposes it will, the performance of removing PFAS beyond VT5 is limited. The treatment of leachate collected from a 20-year-old cell of an active MSW landfill in central Florida shows that FF has poor performance (<50% removal) on removing $C_{n<6}$-PFSAs and $C_{n<5}$ PFCAs.[10] Importantly, this bench-scale study in Florida shows that FF could not remove PFBA, [10] which is a candidate PFAS to be regulated by USEPA. The poor or lack of removal of PFBA and

PFBS was reported at the pilot scale.[11] This limitation was also acknowledged by SAFF® (technology to be adopted in the pilot plan) at commercial scales.[12] Both PFBA and PFBS have been shown to have toxicology concerns,[13,14] and have been shown to persist after FF treatment; the public health risks of these chemicals persisting after the FF treatment is further justification to use an expanded treatment system, composed of bio-pretreatment and reverse osmosis, as discussed in Section 6.

Given the lack of any bench or larger-scale data and the variability of leachate throughout the year, we conclude that the SAFF FF process performance on the removal of VT5 in the NEWSVT leachate is yet to be determined. The FF process is incapable of removing short-chain PFAS not included in VT5. It is a missed opportunity for the study plan not to address these candidate PFAS that are facing scrutiny and possible regulation in the near future due to emerging toxicology findings, in addition to non-targeted compounds, as discussed above.

**4. Concerns about air emission**

Although stack emissions testing techniques are still under development (Other Test Method 45 (OTM-45) Measurement of Selected Per- and Polyfluorinated Alkyl Substances from Stationary Sources), using this approach would add valuable data to the project. Determining if any PFAS will be discharged through the stack gas after carbon absorption is an open question that should be evaluated. In addition, there are relatively simple and proven air sampling techniques that should be employed. For example, air samples can be collected using high-volume air samplers employing sampling modules containing glass-fiber filters (GFFs) and glass columns with a polyurethane foam (PUF)–XAD-2–PUF sandwich.[15] These could be employed in the vicinity of the off gas to determine if PFAS are being emitted from the system. In addition, simple wipe tests of surfaces exposed to the off-gases would be a useful and inexpensive way to determine if PFAS are leaving the system.[16]

There are numerous other potentially harmful semi-volatile organic compounds (SVOCs) and volatile organic compounds (VOCs) found in leachate that are likely to be removed by the foam fractionation process and be in the off-gas. A global survey of the VOCs and SVOCs in leachate from 103 landfill sites combined with 27 published manuscripts on leachate treatment showed that polycyclic aromatic hydrocarbons (PAHs), phthalate acid esters (PAEs), and phenols were the most frequently detected SVOCs in leachate. In addition, four VOCs (toluene, ethylbenzene, xylenes, and benzene) were frequently detected at high concentrations.[17] All of these compounds would likely be removed from the leachate during foam fractionation and could end up in the gas phase, potentially leaving the system. All

could potentially pose a threat and should be monitored. Appropriate methods include EPA Methods TO-4A and TO 13A for SVOCs and TO-14, TO-15 or TO-17 for VOCs.

**5. Concerns about foamate solidification**

Currently, there is no official guidance for the disposal of PFAS in foamate. The use of Portland cement (or similar) to encapsulate the PFAS in foam fractionate to minimize potential recycling is an unproven technology and the relevant research conducted herein casts serious doubts on the solidification's efficacy. There are no publications or reports available that indicate this treatment is effective. In a recent publication, it was found that for PFAS-contaminated soil treated with cement and bentonite, the leaching of long-chain PFAAs was reduced while the leaching of short-chain PFAAs was enhanced.[18] While there is only the single manuscript cited above on PFAS solidification using cement, there are numerous other articles for similar classes of compounds that suggest it may not be effective. For example, Mulder et al. report that "PAHs leach to a relatively high extent" after solidification,[19] and Yilmaz et al. reported that for adsorbable organic halogens (AOX) in pulp and paper sludge solidified with cement,[20] AOX concentrations were above regulatory levels (tested was done with the U.S. Environmental Protection Agency Toxicity Characteristic Leaching Procedure (TCLP)). )). Note that most PFAS are AOX (halogenated substances that are adsorbed from water onto activated carbon). Based on the published evidence it is reasonable to conclude the proposed process will not effectively isolate the PFAS and will allow PFAS in the foam to quickly re-enter the leachate stream

**6. Recommendations on separation technology for leachate treatment, and for targeting both long-chain and short-chain PFAS, as well as precursors**

Given that FF does not target short-chain PFAS and does not sufficiently capture precursors, it is recommended that a separation process capable of removing short-chain ($C_{n<6}$) PFAS and precursors is included in the design. Adsorption by granular activated carbon and resins are not good candidates because of their inefficacy in removing short-chain PFAS and possible compromised performance in the presence of competitive organics and ionic components. However, a combination of biological pretreatment and reverse osmosis (RO) would be a safer and more reliable choice. Biological treatment aims to break down organics to mitigate membrane fouling. The following RO step is a proven process to

treat raw leachate.[21] Recently, RO demonstrated the capability to remove PFAS at all chain lengths ($C_{n>1}$).[22,23] Moreover, as stated above, there is evidence that reverse osmosis also removes precursors.[8] The Bio+RO process, specifically the combination of membrane bioreactor (MBR) and RO, is a mature technology for leachate treatment.[24] Commercialized membranes tailored for PFAS removal in leachate were reported by PCI membranes, Saltworks, and Aclarity (internet sources; no conflict of interests involved).[25–27] A project of treating 75,000 gpd of leachate is being conducted by SCS Engineers in North Carolina.[28]

While FF is a plausible component in treating leachate for PFAS, we herein provide a suggested treatment process that can be an add-on (to be placed after FF) or stand-alone (to replace FF) to eliminate VT5 and other PFAS covered by EPA method 1633. As shown in Figure 2, the treatment train contains a bio-pretreatment unit to reduce the organic loads and thereby mitigate RO membrane fouling. PFAS at all chain lengths will then be removed by the RO unit, as well as a larger swath of precursors. The RO concentrate (10-20% volume of the inlet flow) can be treated by destructive technology, EO or Plasma (discussed in detail below), to mineralize PFAS. We believe this treatment train will better protect the practitioner from regulator noncompliance in the face of an increasing list of PFAS of public concern as well as PFAS precursors, and that this treatment train will decrease public health risks, as compared to the FF proposal.

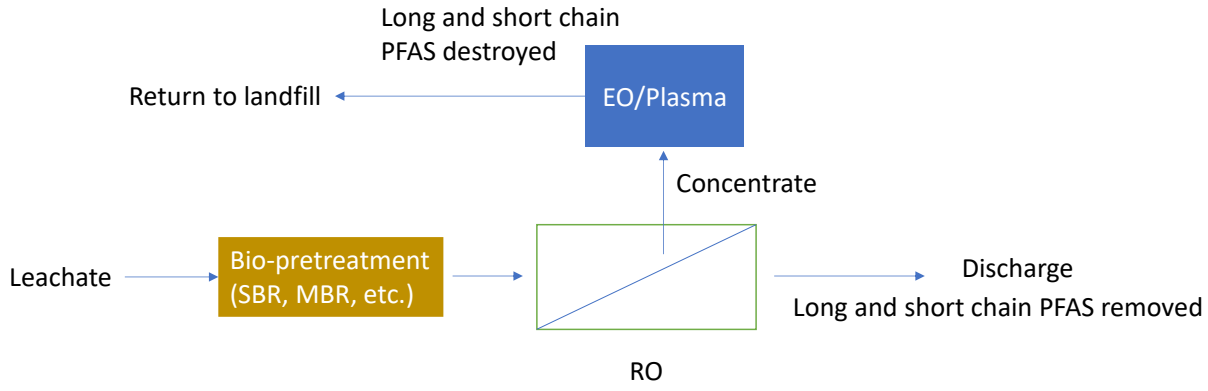


**Figure 1.** Suggested treatment train to remove and destroy long and short chain PFAS.

**7. Recommendations on destructive technology for concentrate treatment**

Current PFAS destruction technologies include (1) electrochemical oxidation (EO), (2) plasma discharge, (3) UV-sulfite reduction, (4) hydrothermal treatment (including two subset technologies: Hydrothermal alkaline treatment and supercritical water oxidation), and (4) sonolysis. The performance of UV-sulfite could be compromised by organics.[29] Hydrothermal treatment requires the addition of excessive alkaline (1-5 M NaOH) and specialized equipment to withstand high temperatures and pressurization.[30,31] These technologies have attracted significant investments and become the backbone of several start-up companies (Aquagga and 374Water). Though these hydrothermal approaches can destroy PFAS in concentrated AFFF and sorbents, no study reported the treatment of leachate or foamate derived from leachate. Our evaluation is that the hydrothermal process is still limited by the treatment capacity. The Aquagga system has a maximum capacity of 240 gpd (based on a personal conversation with a developer). Sonolysis is known for its higher energy consumption than peer approaches.[32] This leaves EO and plasma as feasible options. More importantly, their performance on PFAS destruction was validated in leachate treatment.[33,34] Direct deployment of these technologies in leachate treatment is difficult given the volumes generated, although plasma technology, in particular, is rapidly advancing and may be able to treat the needed volumes in the near future. However, EO or plasma could be used to treat concentrates of leachate with higher PFAS loads and a lower volume, which would eliminate the need for solidification and limit PFAS recycling in the leachate. These destructive technologies could be applied at the end of the treatment process, so that the PFAS in the RO concentrate as well as the foamate (discussed below) were eliminated.

If FF is to be used as the first step toward PFAS control in landfill leachate, based on the Swedish data provided, in the ideal scenario, >97% of the VT5-PFAS may be removed from the leachate. The volume of foamate is unclear in the study plan, although the volume of foamate could be 10% of the total inlet volume.[11] Assuming >99% removal of PFOA in leachate, as the Swedish study attained, the foamate could have a concentration of ~17,000 ng/L at a volume of 7,500 gpd. This is a very large volume of foamate and shows how challenging treating the foamate could be.

Recommended destructive technologies include EO and plasma, for both the RO concentrate from the recommended treatment train, and the foamate from the existing plan. EO treatment of PFAS in leachate has been extensively reported. Destruction of PFOA and PFOS was readily achieved.[35] Directly applying EO to treat leachate may convert precursors to shorter-chain PFAS, leading to the net concentration increase of PFAS in the treated effluent.[36] Extended treatment duration (from 8 to 30 h) or

operation at a higher current density (from 20 to 80 mA/cm$^2$) could lead to the net decrease of PFAS.[34,37] A more appropriate niche for EO is to use it to treat foamate. A pilot-scale study in Uppsala, Sweden, demonstrated the destruction of 60% of total PFAS. Specifically, ~20% of $C_{n<6}$ PFAS and >80% of $C_n$>6 PFAS were destroyed. The study used PFOA degradation as a benchmark. The energy consumption of the FF+EO treatment train to remove and destroy >90% of PFOA is 75 kWh/m$^3$.

Plasma treatment is another promising PFAS destruction technology with high technical readiness and is being applied at pilot and commercial scales.[38,39] These studies utilized an enhanced-contact plasma reactor, in which plasma was generated in argon gas and contacted the gas-liquid interface occupied by PFAS. In this reactor, argon is pumped through a submerged gas diffuser to transport PFAAs and precursors to the liquid surface, where they form a layer of foam that is degraded by the plasma-generated species. Though there was no literature report, plasma should be effective in the treatment of leachate foamate since the process already involves gas purging and reactions in the foam phase. With the aid of additional surfactants (e.g., CTAB), the plasma treatment exhibited broad-spectrum reactivity toward the destruction of both short- and long-chain PFAS in synthetic wastewater and leachate.[33,40] The energy consumption to destroy >90% of PFOA and PFOS ranged from 20 to 36 kWh/m$^3$. This information would be the starting point for designing the plasma treatment system for the foamate.

## 8. Recommended workflow for controlling VT5 in management of residuals (foamate)

One of our major concerns with the pilot plan as it stands is that VT5 will be accumulated in foamate rather than destroyed, as the proposed solidification process is not a validated approach. As discussed above, contrasting results in the published studies suggest PFAS leaching is possible, even likely. Therefore, it is suggested that the study plan include destructive technology to destroy PFAS in the foamate (**Figure 1**). EO and plasma are two commercially viable options, as explained above.

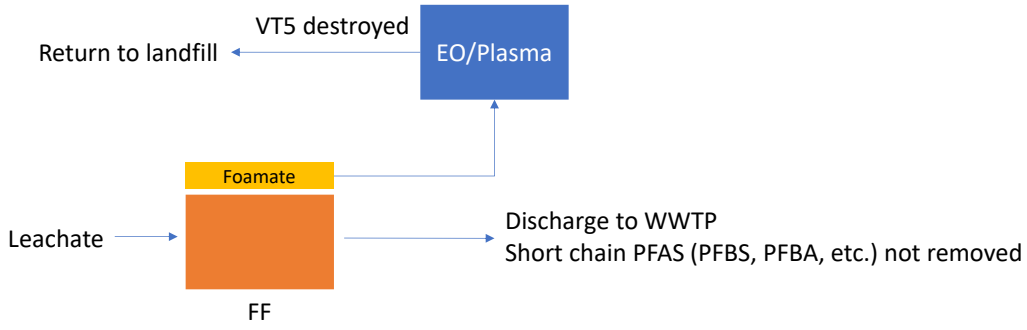


**Figure 2**. Suggested workflow to destroy VT5 PFAS in the FF-based treatment train.

**10. Major conclusions**

- The current study plan is not supported by preliminary data on treating VT5 PFAS in NEWSVT's leachate. Major technical risks reside in (i) uncertainties in the foamability of NEWST's leachate, (ii) uncertainties in the removal efficiencies of VT5 and (iii) no contingency plan to cope with the variations of PFAS concentrations and water qualities,
- The lack of air monitoring is concerning because the proposed technology is likely to result in toxics being released into the atmosphere, as described above. Determining if any PFAS discharged through the stack gas after carbon absorption is an open question that should be evaluated. There are relatively simple and proven air sampling techniques that should be employed, as described above. Moreover, various EPA methods outlined above should be employed to monitor the air for SVOCS and VOCS.
- The current residuals management plan is not recommendable. PFAS solidification in Portland Cement is unlikely to prevent PFAS leaching back into the leachate. There are destructive technologies currently available that can destroy PFAS removed by FF, limiting their recycling in the leachate. For the removal and destruction of VT5 in foamate, we recommend the use of EO or plasma. We also recommend the use of EO and plasma for the destruction of RO concentrate, if our recommended additional treatment system is incorporated.
- The current proposed system--even if it works as claimed, despite the lack of evidence--does not account for treating other PFAS of emerging or proven public health concern. For the removal and destruction of long- and short-chain PFAS covered by EPA Method 1633, we recommend the use of bio pretreatment + RO or FF+bio-pretreatment + RO to concentrate long- and short-chain PFAS, including PFBA and PFBS. The concentrate could then be treated by EO or plasma.
- Limiting the scope of the PFAS study to only VT5 may expose the practitioner to regulatory noncompliance for controlling other PFAS, including short-chain perfluorinated PFAS covered in EPA Method 1633 in the future; limiting treatment to VT5 also ignores public health concerns of other PFAS, as described above. In addition, if unknown precursors (cannot be detected by EPA Method 1633), polyfluorinated compounds (covered by EPA Method 1633), and sulphonamides (covered by EPA Method 1633) are not removed by the FF process, their conversion into regulated PFAS (those in the VT5) after leachate discharge may expose the facility and the WWTP to future liabilities, as well as posing a risk to public health.

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**Bios of Thomas Holsen and Yang Yang:**

Thomas M. Holsen PhD is the Jean S. Newell Distinguished Professor in Engineering, a professor in Civil and Environmental Engineering at Clarkson University and Co-Director of the Clarkson Center for Air and Aquatic Resources Engineering and Sciences. Holsen received is PhD from the University of California at Berkeley. His primary research interests include the transport, transformations and fate of legacy and emerging hydrophobic organic chemicals, mercury, metals, and ions in a wide array of environmental systems. He is a co-PI on several DoD projects investigating the use of non-thermal plasma to remove per- and polyfluorinated compounds (PFASs) from water. Dr. Holsen is a Board Certified Environmental Engineering Member, American Academy of Environmental Engineers and Scientists. He has over 240 publications and has successfully supervised research projects from industrial sources and State and Federal Agencies.

Dr. Yang Yang received his Ph.D. from Tsinghua University in 2014 and his postdoc training at the California Institute of Technology from 2014 to 2018. He joined the Department of Civil and Environmental Engineering at Clarkson University as an Assistant Professor in 2019. Dr. Yang specializes in the synthesis and characterization of advanced electrocatalysts and piezoelectric materials and the exploration of their environmental applications, such as disinfection, emerging contaminant control, and harmful algal bloom mitigation. Dr. Yang has published 30+ peer-reviewed articles in flagship journals and owns three patents in subject areas of emerging contaminant analysis, wastewater treatment, and flue gas purification.

He is an associate editor of *Emerging Contaminants* and an Early Career Editorial Board member of *ACS ES&T Engineering*. His research group at Clarkson received funding from NSF, DoD, DoE, Bill and Melinda Gates Foundation, New York State Department of Environmental Conservation, and the Environmental Research and Education Foundation. He received the prestigious NSF CAREER award in 2023. He was introduced to the “40 under 40 recognition program” by the American Academy of Environmental Engineers and Scientists.

**From:** Polly Jones <carriage@sover.net>
**Sent:** Wednesday, December 20, 2023 9:20 AM
**To:** ANR - WSMD Wastewater
**Subject:** Comment - pretreatment permit 3-1406
**Attachments:** Comment pretreatment permit 3-1406.docx



Hello,

Please find my comment for pretreatment permit 3-1406 attached. Kindly let me know that you have received it by emailing back to me.

Thank you,

Polly Jones

TO: Amy Polaczyk
CC: Senator Richard Sears; Senator Brian Campion; Rep. Kathleen James; Rep. Seth Bongartz
FROM: Polly Jones, Advisory Committee Member of DUMP
378 Bentley Hill Rd., Arlington, VT 05250 and 295 Whispering Pines Rd., Newport, VT 05855
DATE: December 20, 2023
RE: 3-1406, Draft Pretreatment Discharge Permit for New England Waste Services, Inc.

I appreciate that the Agency of Natural Resources is striving to make our state a leader in the treatment of leachate by reducing the PFAS chemical load that is currently streaming through wastewater treatment facilities unfiltered; however, the stand-alone SAFF pretreatment technology considered in this permit is insufficient for the job. While I wholly support the development and use of a PFAS filtration and destruction systems, the system should not be sited in the Coventry landfill which is within ¼ mile of the Black River, ½ mile of the South Bay of Lake Memphremagog, an international lake and drinking water reservoir for nearly 200,000 people. The landfill is also surrounded by hundreds of acres of wetlands identified as "state protected". The level of state protection for these wetlands is continually deteriorating with the looming presence of possibly one of the worst sited landfills in the country.

No landfill leachate should be treated or discharged, either treated or untreated, in the Memphremagog basin EVER again. Uphill of the wetlands adjacent to a drinking water reservoir is no place to put a leachate treatment system, let alone a landfill. The lake is the economic and recreational heart of the region. The landfill already leaks as evidenced by underdrain and test well contamination... the threat of more contamination (with the new infrastructure) is unconscionable. The risk of a spill or leak, like the one in Bethlehem, NH, is too great and would further injure an already handicapped environment. If the treatment system were permitted to be built on the Coventry site (and it absolutely should not), and a spill of 154,000 gallons of leachate were to occur, what would happen to the people, natural resources and economies of the Memphremagog communities? It would be catastrophic! Given that the onsite oversight for the continuously operating treatment system will be 8 hours a day on weekdays and only 2 hours over the course of a weekend, the same schedule for oversight that was in place in Bethlehem, wouldn't Coventry treatment system be another accident waiting to happen when no one is there to watch? Do not grant a permit for this pretreatment technology to operate on the Coventry landfill site.

1) Placement of all leachate treatment systems should be in Montpelier, near to the wastewater treatment facility where the effluent is to be processed for three reasons: A. It should be located on public land where the municipality can capably oversee the operations and limit the applicant's ability to accept out of state leachate to be disposed in our state. Keeping the treatment system on public land will also ensure extension of the lucrative leachate disposal contract the city has with NEWSVT. B. It is necessary to locate waste management operations closer to where the garbage is generated. C. Because the landfill has a limited lifespan of ~15 - 20 yrs. before it reaches capacity, it makes no sense to put a costly system in a location that will not serve the state's needs in the long term. Develop the system closer to where most of the garbage is generated and within a short distance from future waste management facilities - Montpelier.

2) The ANR and DEC have essentially bypassed public participation in all recent permitting related to the landfill and effectively destroyed the public trust in the permitting process. Actual participation involves discussion: The public should be able to ask questions and receive

coordinated responses from the ANR, DEC and Act 250 Commission before a permit is granted. It would be advisable for these agencies to convene another public meeting to present answers to the comments and engage the public in conversation prior to the granting of or amendments to permits. The public would appreciate knowing that their comments are addressed to some degree by ALL the regulatory agencies involved.

3) Piece-meal permitting is designed to keep the public in ignorance. For example, the permit for the building to hold the treatment system was approved prior to the approval for the pilot PFAS treatment system. If the type of treatment system had not been approved yet or even decided upon, how could NEWSVT know what manor or size building to construct? The approval of the empty building was, in essence, the elephant's trunk under the tent. Was this nonsequential permitting approach intentionally designed to deceive the public and achieve NEWSVT's goal of siting a permanent leachate treatment facility onsite without revealing a masterplan? Permitting piece-meal and out of sequence development makes the ANR and DEC appear complicit in the effort to conceal the whole-picture waste disposal plan in Coventry.

4) What is the point of public input if ANR will issue a permit after the system has been in operation for three months? Will the applicant be penalized for this permit violation? Or will the ANR characterize this violation as the public's misinterpretation of the permit? Who is leading whom in the permitting process, the applicant or the regulators?

5) The ANR contracted Civil & Environmental Consultants, Inc. (CEC) to perform a taxpayer funded, independent, third-party review of NEWSVT's pretreatment system plans. They did a bare minimum of work, with no in-depth analysis of the pros and cons of the chosen technology. However, many of the issues they did raise were responded to in this document, 21339-NEWS response cover to ANR July 20 preliminary rfmi.pdf, with terse and incomplete answers. For example, "c. For foamate, define the target concentrations leachable from stabilized residuals. Additionally, report analytical methods proposed, and target concentrations leachable from the stabilized residuals. i. The following methods are recommended: EPA Methods 1311 for extraction and 537.1 Modified for the PFAS analysis of the extraction fluid." NEWSVT response was, " As indicated above, liquid residuals will be solidified and landfilled onsite." NEWSVT response did not include target concentrations leachable from stabilized residuals, nor can mixing foamate residuals with Portland cement be considered stabilized residuals. All forms of cement are porous and will leach out PFAS when in contact with air, soil and water. This method cannot be considered an effective encapsulation or even stabilization of residuals. Resin encapsulation may prove to be a better temporary stabilization whereby the residuals can be stored in weather resistant facilities until such time PFAS destruction technologies can destroy the residuals with certitude. Paul Burns, lead scientist and co-inventor of the SAFF process at EPOC Enviro SAFF, states; "The end-product of the three fractionation stages is a highly concentrated aqueous liquid waste (known as the "hyper-concentrate") which is potentially amenable to on-site destruction utilizing a range of commercially available fluorocarbon destruction technologies (e.g., supercritical water oxidation, plasma or electrochemical oxidation)." https://onlinelibrary.wiley.com/doi/10.1002/rem.21720?af=R Why isn't the ANR insisting on this vital step, additional system in the treatment train, for this permit?

6) Although the CEC recommendations included using additives to increase the capture of a greater percentage of short-chain PFAS, "1. Section 2.1, Attachment A: Given the unit will have the ability to add surfactant amendments, please add testing of cetrimonium bromide (CTAB) and/or other additives to the Plan to compare efficacy of foam fractionation with and without amendments." The NEWSVT's dismissive response was this, "Amendments, if any, that are utilized during the study to enhance the performance of the foam fractionation system will be summarized in the pilot study report. Please note that two surfactants were utilized during the bench scale study, including CTAB. In these trials, removal efficiencies for VTS compounds were not improved by low dose surfactant addition." This exchange makes it clear that NEWSVT is only concerned with removing the five long-chain, VT regulated PFAS from leachate, and nothing more. If capturing a greater percentage of PFAS, including short-chain PFAS in the system is important to the ANR, why are they willing to grant this permit without further investigation? Research states, "adsorption coefficients are generally smaller for short carbon chain length molecules (Brusseau, 2019), which makes such species less susceptible to removal by adsorptive bubble separation." https://onlinelibrary.wiley.com/doi/10.1002/rem.21720?af=R It is almost inconceivable that the ANR has set such a low-bar goal. Since the SAFF system is not capable of removing most short-chain PFAS, why is it being considered a solution to the problem? It should be one system in a train of treatments. Why is the ANR considering a permit for the use of the SAFF pretreatment technology without the addition of more equipment that can effectively remove and destroy most PFAS from leachate?

7) The inability of the SAFF system to remove short-chain PFAS leads to the problem of precursor PFAS evolving into terminal PFAS - PFOA and PFOS - when processed through the wastewater treatment facility or combined with the bacteria in "treated" leachate. Again, the SAFF system is completely inadequate for the job, but the ANR is willing to permit the use of this sole technology based on testing the post treatment effluent for the VT 5 regulated, long chain PFAS. As quoted from Response to Preliminary Comments; July 20, 2023, dated Oct. 5, 2023, CEC asks, "d. Conduct total oxidizable precursor (TOP) assay on one round of influent and effluent PFAS samples to assess precursor transformation into terminal PFAS by the treatment process." The NEWSVT response: " TOP assay results were previously collected during the Bench Scale study and will be provided in the final report. NEWS is not planning to collect additional samples for TOP assay testing during the pilot study." NEWSVT is not planning to collect those samples because the mixed results will quantify the insufficiencies of SAFF technology to remove short-chain and precursor PFAS from leachate. In fact, the treatment will do little to protect humans and wildlife from PFAS pollution downstream of the effluent disposal. Again, the SAFF system can be part of the solution to the PFAS problem, but it cannot be relied upon to be the whole solution. The ANR is delinquent in its purpose by not demanding that NEWSVT employ more equipment in the treatment train to safeguard every living thing downstream.

8) Will the ANR determine technology-based effluent limitations (TBELs) based on an inadequate system derived by using best professional judgement (BPJ) the absence of national or state guidelines and standards? As stated in the permit, "The Secretary will use the results of the pilot study to establish a Technology Based Effluent Limit (TBEL) and/or treatment standard for PFAS

in landfill leachate." On whose professional judgement will the ANR depend? I shudder to think the determination will be made based solely on the performance of a critically incomplete technology. Why hasn't the ANR determined effluent and surface water standards for PFAS, all detectible long and short chain per and poly fluoroalkyl substances, when they have had years to study its deleterious effects? Knowing that these chemicals are bio accumulative, there is NO safe level of exposure, yet the ANR is waiting to find out what reduction in VT's five regulated long-chain PFAS the SAFF system can accomplish (never mind the 14,000+ others); thereby allowing an experimental, incomplete system purchased, operated and overseen by a profit driven corporation set an effluent limitation. Whether you characterize this delayed action as complicity or conspiracy, it is not befitting of an agency whose purpose is to protect our natural environment for the people:

"The Vermont Agency of Natural Resources (ANR) is charged with oversight and management of Vermont's natural environment on behalf of the people of Vermont. We endeavor to draw from and build upon Vermonters' shared ethic of responsibility for our natural environment, an ethic that encompasses a sense of place, community and quality of life, and an understanding that we are an integral part of the environment, and that we must all be responsible stewards for this and future generations."

**From:** VALERIE DILLON <valotter@yahoo.com>
**Sent:** Wednesday, December 20, 2023 10:15 AM
**To:** Polaczyk, Amy
**Subject:** Public Comment: ENB ID = 23.0022657 for Amended_Permit_No.3-1406_2023December20_ValerieDillon
**Attachments:** PUBLIC COMMENTS Amended 3-1406 2023Dec12vB_ValerieDillon.pdf



Hello Amy Polaczyk,

I was not able to submit my comments via the ENB process and did not find the alternate email option listed in the public notice "using the e-mail comment provision included at http://dec.vermont.gov/watershed/wastewater. I am running out of time and since you are listed as the staff contact, hopefully my comments will reach the Agency of Natural Resources, Department of Environmental Conservation, Watershed Management Division.

**PUBLIC COMMENTS for *Amended* Permit No. 3-1406**
*Amended PRETREATMENT DISCHARGE PERMIT SIGNIFICANT INDUSTRIAL USER.*
*Pretreatment discharge permit proposed for New England Waste Services, Inc. for the discharge of landfill leachate to the City of Montpelier Wastewater Treatment Facility. This amendment incorporates requirements for the pilot leachate treatment system.*

Thank you for the opportunity to submit public comments. We literally are all in this together and appreciate and need wise management. The intent of this pilot permit is to better manage the landfill leachate but it seems to be missing some important aspects. Among the factors are available/current standards/regulations and options to adjust with changing understanding of the emerging PFAS chemicals (*and general category of forever chemicals*) based on the evolving science and innovations to mitigate.

Attached my full public comments as a PDF.
PUBLIC COMMENTS Amended 3-1406 2023Dec12vB_ValerieDillon

**One question:** The pilot treatment program only processes a percent of the leachate, what happens to the rest? There does not seem to be enough storage capacity to hold the leachate during the duration of the pilot.

Valerie Dillon
Newport, VT

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**TO: Vermont ANR DEC Watershed Management Division**
**FROM: Valerie Dillon**
**RE: PUBLIC COMMENTS for *Amended* Permit No. 3-1406**
*Amended PRETREATMENT DISCHARGE PERMIT SIGNIFICANT INDUSTRIAL USER.*
*Pretreatment discharge permit proposed for New England Waste Services, Inc. for the discharge of landfill leachate to the City of Montpelier Wastewater Treatment Facility. This amendment incorporates requirements for the pilot leachate treatment system.*

Thank you for the opportunity to submit public comments. We literally are all in this together and appreciate and need wise management. The intent of this pilot permit is to better manage the landfill leachate but it seems to be missing some important aspects. Among the factors are available/current standards/regulations and options to adjust with changing understanding of the emerging PFAS chemicals (*and general category of forever chemicals*) based on the evolving science and innovations to mitigate.

This proposed pilot treatment of leachate may help with some degree of removal of the PFAS from the leachate. But not enough to warrant discharge into a waste water treatment facility with the ultimate goal of release back into a watershed.

1. The first issue are the standards for determining the success 'pretreatment' and toxicity of the leachate resulting from the pilot pretreatment process.

The science to “clean or reduce” *PFAS* chemicals offers may alternatives.
- The steps outlined modify that fluid so it would be acceptable for the Montpelier Wastewater Treatment Facility (WWTF) without anticipated harm to the facility functionality.
* But that process does not have any standards by which to measure, instead proposes to use the results to establish the standards for water quality of the pretreated leachate.
* Such standards have no basis in human health or ecological requirements.
* Instead just using the loop hole of using technology based effluent level (TBEL) as the means to define regulations for treatment standards for *PFAS* in the discharge.
* ANY sort of release into the watershed of this pretreated leachate processed effluent through the WWTF needs to be at drinking water standards because the rivers and lakes are sources for recreation, drinking, fishing, and ultimately support natural habitats. TO DO otherwise continues spreading the poisons.

At issue is the lack of standards from the EPA. They are in process to be developed and require new detection methods. Interim guidance from various States vary from place to place. The evolving awareness regarding threats from *PFAS* chemicals is expanding. We know they are associated with a host of human health issues as well as bioaccumulating in the environment with many discoveries documenting those negative impacts.

2. Another issue is the proposed “containment” of the *PFAS* chemicals extracted from the leachate. The proposed solution does not destroy or neutralize the toxicity. The treatment residuals are concentrated with a plan to stored within cement block which returns them to the landfill to eventually break down again and become part of the leachate.

3. The pilot system needs a forward thinking design - “treating” leachate via a series of steps. Incorporate methods to evaluate the process is basic science procedures. Then the real effort of upsizing to manage the volume.

“WE” are not in this alone, *PFAS* is a world problem, and many US states have ongoing lessons learned. There are options for improving the end result with a goal close to zero ppt. Capture, contain, and destroy, so no *PFAS* chemicals are released back into the environment! To do otherwise will be more impactful and expensive. It is better to not to create a problem to clean up!

**From:** Pagé, Laura <Laura.Page@assnat.qc.ca>
**Sent:** Wednesday, December 20, 2023 10:29 AM
**To:** ANR - WSMD Wastewater
**Subject:** Memorandum
**Attachments:** 2023-12-20 Draft Amended Pretreatment Discharge Permit_Ébauche.docx; 2023-12-20_ Communiqué_dépot mémoire.pdf



Good day to all, joined is the memorandum from The Table (Table de concertation des élus.es du Lac Memphrémagog) concerning the *Draft Amended Pretreatment Discharge Permit.* Thank you for your attention to this memorandum, we look forward to your responses.

Have a good day.


Laura Pagé | attachée politique

ASSEMBLÉE NATIONALE DU QUÉBEC

Bureau de M. Gilles Bélanger
Député d'Orford
Adjoint parlementaire du premier ministre (volet internet haute vitesse)
2389, rue Principale Ouest, suite 100
Magog (Québec) J1X 0J4
Tel. 819 847-3911
Cel. 819-674-4871
laura.page@assnat.qc.ca

TABLE DE CONCERTATION DES ÉLUS DU LAC MEMPHRÉMAGOG

MEMORANDUM PRESENTED

TO

VERMONT AGENCY OF NATURAL RESOURCES
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
WATERSHED MANAGEMENT DIVISION

CONCERNING THE

# DRAFT AMENDED PRETREATMENT DISCHARGE PERMIT

FOR

NEW ENGLAND WASTE SERVICES, INC.

DECEMBER 20 TH, 2023

# Table of content

# 1. Table de concertation des élus of lake Memphremagog

The *Table de concertation des élus du lac Memphrémagog* (hereafter the Table) is a collaborative space created in early 2020 and is composed of Canadian elected representatives from municipal, provincial, and federal sectors. It seeks to facilitate the exchange of information among various government levels, as well as to define the specific roles and responsibilities of each entity. This initiative also aims to harmonise the efforts, actions, strategies, and communications concerning the New England Waste Services landfill in Coventry, Vermont.

The members of the table include:

- Federal
    - Marie Claude Bibeau, member of Parliament for Compton—Stanstead, Minister of National Revenue
    - Élisabeth Brière, member of Parliament for Sherbrooke
    - Pascale St-Onge, member of Parliament for Brome-Missisquoi, Minister of Canadian Heritage
- Provincial
    - Gilles Bélanger, member of the national assembly for Orford
    - Christine Labrie, member of the national assembly for Sherbrooke
    - Audrey Bogemans, member of the national assembly for Iberville
- Municipal
    - Jacques Demers, prefect of the MRC de Memphremagog and Mayor of Ste-Catherine-de-Hatley
    - Lisette Maillé, president of the environmental committee of the MRC de Memphremagog and mayor of Austin
    - Nathalie Pelletier, mayor of the City of Magog
    - Évelyne Beaudin, mayor of the City of Sherbrooke (represented by Raïs Kibonge, deputy mayor as of December 2023)

Gilles Bélanger chairs the Table and is its main spokesperson.

On March 19th, 2021, a joint statement was adopted by the Table acknowledging the protection of Lake Memphremagog as a priority shared by all elected officials at all levels of government in Canada. It was also stated that in the absence of scientific certainty concerning the health and environmental impacts of leachate treatment in the Memphremagog watershed, the precautionary principle[1], such as it was defined in the Rio convention of 1992, should be applied. This position was reaffirmed in a motion that was adopted at the National Assembly of Quebec on June 3rd, 2021. These declarations have been the guiding principles of the Table.

[1] Precautionary principle: Where there are threats of serious or irreversible damage, lack of full scientific certainty shall be not used as a reason for postponing cost-effective measures to prevent environmental degradation.

Although PFAS have received significant attention from both media and citizens, the Table's concern extends beyond just PFAS. It focuses on a broader spectrum of emerging and persistent pollutants present in waste and the leachate it produces. Recognizing this as a societal problem, the Table acknowledges that landfills sites are responsible for managing these unwanted by-products. There is a risk that these by-products, without thorough treatment, may eventually enter waterways and drinking water supplies. This concern is paramount, highlighting the importance of applying the precautionary principle within this context.

## 2. Interests in the Draft Amended Pretreatment Permit

The Table's members and their predecessors have closely monitored the developments at the Coventry waste site for over 20 years. Many members actively engaged in consultations during the phase VI expansion and participated in Act 250 consultations during which concerns were raised about the disposal of landfill leachate from the facility in Coventry at the Newport wastewater treatment facility (WWTF) or anywhere in the Memphremagog watershed. These consultations also highlighted the need to conduct a leachate treatment scoping study.

Since then, the Table has been following closely permitting activities on the NEWST-Vt Coventry landfill. Each permit or amendment subject to Public Notices has been thoroughly reviewed, based on the Table's primary concern: potential impacts on water quality as Lake Memphremagog serves as a drinking water source for over 170 000 citizens in the Eastern Townships. Where necessary, the Table submitted a memorandum.

Special attention has been devoted on Pretreatment Discharge Permit No. 3-1406, viewed as a continuation of concerns raised during the act 250 consultations, as it directly relates to how leachate – a primary pathway for potential water quality issues from the landfill – is managed. The Table submitted a memorandum during the initial Public Notice for Comments on the renewal of said permit. Thus, the Table's participation in the public notice for the Draft Amended Pretreatment Discharge permit is a continuation of its long-standing watchfulness.

## 3. Comments

### 3.1. Acknowledgement of rigorous and open permitting process

First and foremost, the Table wishes to specifically commend the *Department of Environmental Conservation* (DEC) and also the *Agency of Natural resources* (ANR) for their transparency, rigor, and openness to public input throughout this whole permitting process. The innovative approach taken in formulating the Pretreatment Permit reflects a creative use of policy, fostering adaptive governance and meaningful progress toward addressing a most complex issue.

The detailed and considerate responses provided in the Responsiveness Summary offer valuable insight and understanding on the issue. Additionally, The Table appreciates the integration of certain comments and recommendations between the Draft and the Final Permit, demonstrating a willingness to consider public input.

About the rigor displayed by the DEC and ANR, the Table noted on two occasions (once concerning Pretreatment Discharge Permit No. 3-1406 and the other, the Amendment for Solid Waste Facility Certification enabling the construction of the physical equipment to house the pilot treatment facility) that DEC and ANR requested additional information from NEWS-VT to complete their applications. These requests were aligned with some of the questions the Table would have raised during initial Public Notice had the applications been deemed complete the first time. Also, the DEC's hiring of a specialized firm to conduct a third-party review of the pilot study plan for technical and financial soundness is illustrative of its careful attention to this permitting process.

Lastly, the Table acknowledges DEC's transparency efforts in the publication of comments and documents, such as the CEC letter report, on the Environmental Notice Bulletin. The Table also appreciates DEC's proactive communication about the forthcoming steps in the process in known sensitive permits.

All mention above contributes to building a greater trust in the permitting process and the parties involved.

### 3.2. Use of EPA draft method 1633 for PFAS analysis

The Table welcomes the change in the choice of methods for PFAS analysis in the Amended Draft Permit, moving from EPA modified 537 Version 1.1 to EPA 1633. This change enables collection of high-quality data and allows for a larger screening of PFAS analytes.

### 3.3. Defining the Technology based effluents limits (TBELS)

In the absence of water quality standards or effluent guidelines for PFAS, the Table welcomes the DEC's aim to establish TBELS for all detectable compounds present in the leachate waste stream using EPA Method 1633.

However, a pertinent question arises: considering that PFAS are a group that comprises of nearly 15,000[2] different synthetic chemicals, is there an intention of the DEC to continue developing TBELS as more refined screening methods for PFAS analysis become available?

## 4. Concerns

The Table has concerns regarding an eventual return of leachate treatment and disposal at the WWTF in Newport. As indicated in our previous memorandum, the Table apprehends that once the Leachate Treatment Pilot Study Plan comes to an end, the final report will be used as a basis for amending the Pretreatment Discharge Permit and the Act 250 Land Use Permit *no. 7R0841-113* allowsing once again treatment and disposal of leachate at the Newport WWTF or within the Memphremagog watershed. The Table opposes the return of leachate treatment at the Newport WWWTF or anywhere in the Memphremagog watershed for the following reasons:

[2] National institute of environmental health sciences. Web page. Consulted December 7th 2023: https://www.niehs.nih.gov/health/topics/agents/pfc/index.cfm

Considering that the waste disposal facility in Coventry is the only active landfill site in Vermont and it generates a monthly average discharge flow of leachate to authorized WWTF of around 19 000 gallons per day;

Considering that studies done by the state of Vermont demonstrate that WWTF treatment facilities accepting large volumes of landfill leachate have higher concentrations of PFAS in their effluent when compared to facilities that do not accept leachate;

Considering PFAS are known to be stable and persistent chemicals in the environment, breaking down very slowly in the environment, and are bioaccumulative and toxic, therefore posing health risks even at very low levels[3], generally public health advice emphasizes reducing sources of PFAS before they enter either the waste stream, the environment[4] and other possible public exposure pathways such as drinking water[5];

Considering that the *Draft Recommended Aquatic Life Ambient Water Quality Criteria* proposed by the EPA for PFOA and PFOS both recognize that evaluation for determining the criteria are "*based solely on single chemical exposure to aquatic life*". Moreover "*it is recognized that PFAS are often introduced into the aquatic environment as end-use formulations comprised of mixtures of PFAS and/or PFAS-precursors*" and "*that the ecological effects of these potential PFAS mixtures are still poorly understood*" [67]. These factors emphasize the limitations of the proposed concentrations;

Considering the general trend in the last decade to lower the water quality criteria for PFAS and other contaminants as our collective knowledge of their health impacts improves;

Considering that the EPA has proposed maximum contaminant levels goals (MCGL) of zero concentrations for PFOA and PFOS in drinking water[8] as well as Interim Updated Health Advisory Levels for PFOA and PFOS which are lower than current PFAS detection methods[9];

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[3] VANR, Deriving Ambient Water Quality Standards for the Emerging Chemicals of Concern: Per- and Polyfluoroalkyl Substances, p. 6. Consulted December 7th 2023: https://dec.vermont.gov/sites/dec/files/wsm/docs/VWQS-PFAS-Plan-Report-Final-20200204.pdf

[4]VANR, 2021. PFAS Road Map, p. 10. Consulted December 7th 2023: https://anrweb.vt.gov/PubDocs/DEC/PFAS/General-info/Vermont-PFAS-Roadmap.pdf

[5]INSPQ, 2023. Web page. Consulted December 7th 2023: https://www.inspq.qc.ca/pfas/limiter-exposition-aux-pfas-fiche-technique

[6]EPA, 2022. Draft aquatic life ambient water quality criteria for PFOA, p. 38. Consulted December 7th 2023: https://www.epa.gov/system/files/documents/2022-04/pfoa-report-2022.pdf

[7]EPA, 2022. Draft aquatic life ambient water quality criteria for PFOS, p. 48. Consulted December 7th 2023: https://www.epa.gov/system/files/documents/2022-04/pfos-report-2022.pdf

[8] EPA, 2023. Web page. Consulted December 7th 2023: https://www.epa.gov/sdwa/and-polyfluoroalkyl-substances-pfas

[9] EPA, 2023. Web page. Consulted December 7th 2023: https://www.epa.gov/sdwa/questions-and-answers-drinking-water-health-advisories-pfoa-pfos-genx-chemicals-and-pfbs

> Considering Lake Memphremagog serves as the public water supply for over 170,000 Canadians in several municipalities, including the city of Sherbrooke, the city of Magog, and the Township of Potton.

The Table wishes to reiterate our desire to protect and maintain our source of drinking water from unduly adverse effects for future generations. Therefore, the Table remains in favour of the ban on leachate treatment and disposal in the Memphremagog watershed until more comprehensive scientific studies can guarantee the absence of adverse effects regarding all substances present or potentially present in leachate that could have adverse effects on the drinking water supply.

## 5. Conclusion

The Table is thankful for the opportunity for public input the DEC provides throughout this permitting process recognizing the challenges governments are facing in dealing with contaminants of emerging concern. The Table considers the state of Vermont to be a forerunner in North America in its approach to PFAS management and commends the significant steps the State has taken towards addressing the issue.

**COMMUNIQUÉ** DIFFUSION IMMÉDIATE

**Site d'enfouissement de Coventry**

## La Table de concertation des élus du lac Memphrémagog dépose son mémoire

Magog, 20 décembre 2023 - La Table de concertation des élus du lac Memphrémagog transmet aujourd'hui à l'Agence des ressources naturelles (ANR) du Vermont, ses commentaires concernant l'amendement au permis de prétraitement du lixiviat provenant du site d'enfouissement de Coventry.

Rappelons que La Table de concertation des élus du lac Memphrémagog est composée de représentants politiques de la Ville de Sherbrooke, de la MRC de Memphrémagog, des circonscriptions provinciales d'Orford et de Sherbrooke, ainsi que des circonscriptions fédérales de Compton-Stanstead, Sherbrooke et Brome-Missisquoi. Les objectifs de ce lieu de concertation sont de développer une force régionale pour la protection du lac, ainsi qu'une synergie entre les différents ordres de gouvernement pour des interventions concertées.

Les élus de la Table de concertation et leurs prédécesseurs se rencontrent régulièrement, depuis une vingtaine d'années, pour discuter des enjeux touchant le lac Memphrémagog. Chaque permis ou amendement concernant le site d'enfouissement Coventry, soumis à une consultation publique et ayant un impact possible sur la qualité de l'eau du lac Memphrémagog, est rigoureusement analysé par les membres de la Table. Lorsque jugé nécessaire, la Table soumet un mémoire afin de faire entendre ses positions auprès de l'État du Vermont. Le suivi assidu des multiples consultations sur les permis entourant la gestion du site d'enfouissement démontre la détermination et la vigilance qui animent les membres de la Table. L'amendement, actuellement en consultation, porte sur les termes de références d'une étude pour déterminer l'efficacité d'une technologie pilote pour traiter les substances perfluoroalkyliques et polyfluoroalkyliques (SPFA) aussi connues sous le nom de PFAS en anglais.

Dans le cadre de cet amendement, la Table juge pertinentes les exigences ajoutées dans le permis par le Vermont. De plus, elle considère celui-ci comme étant un précurseur, en Amérique du Nord, dans son approche des SPFA et salue la rigueur et la transparence démontrées par l'Agence des ressources naturelles (ARN) et le Département de la conservation de l'environnement (DEC) du Vermont.

Bien que l'amendement en consultation ne prévoie pas le retour du rejet de lixiviat traité dans le bassin versant du lac Memphrémagog, les élus souhaitent rappeler que celui-ci constitue le réservoir d'eau potable pour plus de 170 000 citoyens des villes de Magog, Potton et Sherbrooke. Ils ont le souci d'assurer sa protection à long terme et se positionnent en faveur du maintien du moratoire tant qu'une innocuité de très haut niveau concernant les impacts sur la qualité de l'eau potable du lac Memphrémagog n'aura pas été démontrée par la technologie utilisée.

**Citation :**

**«** Je crois sincèrement qu'en travaillant en étroite collaboration avec tous les intervenants impliqués dans le dossier que nous arriverons à préserver la santé du lac Memphrémagog pour nous et les générations futures. Historiquement, le Vermont a toujours fait preuve d'écoute par rapport à nos préoccupations. La collaboration que nous avons par le biais de la Table de concertation permet de partager l'expertise et parler d'une seule voix, ce qui augmente sa portée.»

*Gilles Bélanger, député d'Orford, leader et porte-parole de la Table de concertation des élus du lac Memphrémagog.*

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**Pour demandes d'entrevues :**
Nicole Brunet
Attachée de presse
Tél. : 819 349-5367

**From:** Parenteau, Guy <Guy.Parenteau@environnement.gouv.qc.ca>
**Sent:** Wednesday, December 20, 2023 11:02 AM
**To:** ANR - WSMD Wastewater
**Cc:** Moore, Julie; LaFlamme, Pete; Polaczyk, Amy; Provost, Nathalie; Moffatt-Bergeron, Sophie; Tremblay, Daniel; Gravel, Pierre-Luc
**Subject:** Comments - DRAFT Major Amendment Pretreatment Permit 3-1406 New England Waste Services - Coventry - Ministry of Environment, fight against climate change, Wildlife and Parks of Quebec
**Attachments:** Lettre Agency of Natural Resources_EN.pdf; Comments-Coventry permit 23-12-19.pdf; Commentaires_Permis Coventry_231219.pdf; Lettre Agency of Natural Resources_FR.pdf



Environnement, Lutte contre les changements climatiques, Faune et Parcs
Québec

Greetings,

Please find attached to this email the comments from the Ministry of Environment, fight against climate change, Wildlife and Parks of Quebec regarding the draft of the Major Amendment to Pretreatment Permit 3-1406 for New England Waste Services in Coventry, Vermont.

Best regards,

**Guy Parenteau, géogr., D.G.E.**
**Conseiller en environnement**
**Direction régionale de l'analyse et de l'expertise de l'Estrie**
Ministère de l'Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs
770, rue Goretti, Sherbrooke (Québec) J1E 3H4
Tél. : 819-674-8712
www.environnement.gouv.qc.ca

COURTESY TRANSLATION

Dear Madam,
Dear Sir,

Please find enclosed, the opinion of the Ministère de l'Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs (MELCCFP) of Québec with respect to Vermont amended draft permit 3-1406 for New England Waste Services inc.

This opinion constitutes the official MELCCFP opinion under your permit issuing process. Thank you for the opportunity you afforded us to help maintain the quality of boundary waterways. Hoping to continue the existing cooperation between our two organizations, I remain.

Yours truly,

Original signed by:
La directrice générale,

NP/imb

Nathalie Provost

c. c. Julie Moore, Secretary of the Vermont Agency of Natural Resources
Pierre-Luc Gravel, Director, Direction des relations internationales et canadiennes au MELCCFP

Ministère
de l'Environnement,
de la Lutte contre
les changements
climatiques, de la Faune
et des Parcs
Québec

Direction principale des eaux usées

# Technical opinion

DATE: December 12, 2023

SUBJECT: **Comments on the Draft Permit for the Coventry Engineered Landfill**

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First, it is important to note that the modified draft permit **does not under any circumstances allow for the discharge of leachate water at the Newport municipal wastewater treatment plant that flows into the Lake Memphremagog drainage basin. It concerns discharge at the Montpelier municipal wastewater treatment plant that flows into the Winooski River in the Lake Champlain drainage basin**.

The permit has been modified to specify expectations pertaining to monitoring and information to be reported to the Vermont Agency of Natural Resources (VANR) in the context of the pretreatment of PFAS to be carried out on the site of the Coventry EL. It is our understanding that the permit must be modified again to allow a permanent PFAS treatment facility on the site. The VANR indicates that it intends once the pilot project has been accepted to request full-scale pretreatment at the Coventry EL.

By way of indication, readings conducted in Vermont revealed that PFAS concentrations in effluent from municipal wastewater treatment plants that accept EL leachate water are higher than those that do not do so. However, the effluent from the wastewater treatment plants that do not accept leachate nevertheless contain PFAS. For example, effluent from the Newport wastewater treatment plant upstream from Lake Memphremagog displayed concentrations of 67-129 ng/l for the sum of the PFAS analyzed, compared with 80-378 ng/l for the Montpelier wastewater treatment plant, which accepts leachate water from the Coventry EL (Vermont ANR, 2022).

## 1. Selected water treatment technology

Foam fractionation was the solution adopted to pretreat leachate water before discharge from the Montpelier municipal wastewater treatment plant. This technology is deemed to be mature and has already been implemented full scale to treat leachate EL water (ITRC, 2023). It is especially attractive for the treatment of EL leachate water, complex, loaded effluents, because it can effectively treat a broad range of water quality without requiring pretreatment.

Foam fractionation is recognized as being highly effective to remove long-chain PFAS such as PFOS and PFOA. However, its effectiveness is mitigated as regards the removal of short-chain PFAS (ITRC, 2023). This could constitute a weakness for the technology given that the literature does not indicate that certain PFAS such as short-chain PFAS do not pose a threat (ECCC and HC, 2023). Moreover, the technology performance data presented in the document appended to the draft permit (Brown and Caldwell, 2023) reveals limited removal (15-49%) for four short-

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Édifice Marie-Guyart
675, boulevard René-Lévesque Est
Québec (Québec) G1R 5V7
Courriel : bernard.patry@environnement.gouv.qc.ca
Internet : http://www.environnement.gouv.qc.ca

chain PFAS (PFBA, PFPeA, PFHxA and PFBS). The latter are the most concentrated in the leachate water of a Québec EL according to the findings of a recent sampling campaign. Furthermore, by way of indication, the concentrations reported in the attachment to the draft permit for the five PFAS regulated in drinking water in Vermont all exceed those measured during the recent sampling of the Québec EL. This reveals either a higher total PFAS concentration in Coventry or a different profile as regards the dominant congeners, or both.

Given that the pretreatment of PFAS in EL is still rare in light of the emergence of the problem and the absence of limits for this family of contaminants in American regulations[1] and in Québec regulations[2], the choice of technology seems suited to the desired objective, i.e., **the reduction of the five regulated PFAS in Vermont drinking water**.

However, **since the technology does not perform consistently to remove all PFAS, it could prove to be insufficient to attain an objective targeting, for example, the sum of a more exhaustive list of PFAS including short-chain congeners**. Such an objective would be potentially more coherent with the fact that the literature does not indicate that certain PFAS do not pose a threat (ECCC and HC, 2023).

**It would be relevant for the Direction principale des eaux usées (DPEU) to have access to the findings of the pilot study that will certainly generate useful information that could potentially serve Québec EL**.

## 2. Effluent standards and water quality criteria

The VANR intends to use data collected in the context of the pilot project to establish the technological limitations specific to the project. The methodology mentioned to establish the limits is based on the documentation of the USEPA, which is also used by the DPEU for the same type of application.

The arguments put forward to justify the use of technological standards are that the USEPA does not for the time being have a release limit for PFAS nor are there official surface water quality criteria pertaining to such substances both at the state and federal levels.

In Québec, criteria respecting PFOS and PFOA are published on the MELCCFP website. The most restrictive criteria concern the prevention of the contamination of water and aquatic organisms such as fish, which can be subsequently consumed. They are based on the Michigan's criteria and are weaker than the preliminary criteria of the USEPA for the protection of acute and chronic aquatic life

[1] Limits are, however, anticipated prior to 2028 (Vermont ANR, 2023).
[2] No Québec EL, whether or not it is upstream from drinking water intakes, now includes treatment that specifically targets PFAS.

that are cited in the descriptive fact sheet accompanying the draft permit. Given the challenges stemming from the potential contamination by PFAS of drinking water intakes, **it would be relevant for the VANR to apply the appropriate criteria, depending on the uses, to make comparisons with discharges in the receiving environment**. To this end, the draft permit nevertheless includes clauses to modify the permit to add monitoring of fish tissues or to incorporate release limits based on new surface water quality criteria.

## 3. The monitoring program

The draft permit includes the monitoring of PFAS at the Montpelier municipal water treatment plant and in the receiving environment centred on five PFAS (PFOA, PFOS, PFHxS, PFHpA, and PFNA) that are regulated in drinking water in Vermont. The sum of the five PFAS must not exceed 20 ng/l in drinking water. For comparison purposes, Health Canada's interim target is 30 ng/l for the sum of 29 PFAS (HC, 2022). This objective, which implies a more extensive list of PFAS is, as noted previously, more coherent with the fact that the literature does not indicate that certain PFAS do not pose a threat (ECCC and HC, 2023). **It would, therefore, be relevant to evaluate the findings of the pilot study, e.g., the removal of different PFAS, by considering the list of PFAS associated with Health Canada's interim target**. Such a comparison should be possible given that the USEPA's methods of analysis specified in the draft permit (method 1633) and in the Health Canada technical document concerning the preliminary objective for drinking water quality (methods 537.1 and 533) include the same congeners (AWWA, 2021).

The monitoring of PFAS requested specifically for the pilot study in the draft permit includes bi-monthly monitoring of affluent, effluent, and sludge at the municipal wastewater treatment plant and monthly monitoring of affluent and effluent from the pilot wastewater treatment plant system, for a minimum of 180 days. What is more, mention is made in the documents appended to the draft permit that the technology chosen is resilient to changes in environmental conditions (Brown and Caldwell, 2023). **The monitoring program should thus produce a comprehensive picture of the pilot system's performance and the impact on effluent from the municipal wastewater treatment plant**. For comparison purposes, the DPEU has recommended quarterly monitoring of PFAS in effluent from EL in the context of the revision under way of the *Regulation respecting the landfilling and incineration of residual materials*.

## 4. Management of the concentrate

The technology adopted for the foam fractionation pilot tests generates a concentrate that must be treated or eliminated. The concentrate management method announced calls for solidification using Portland (or similar) cement before burial in EL cells. By way of indication, the stabilization/solidification for the treatment of soils or sediments containing PFAS, which, to our knowledge, is the

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best documented application for this technique, is classified as a treatment technology under development whose application is, for the time being, limited (ITRC, 2023).

To our knowledge, the leaching potential of PFAS contained in solids (concrete) once they are subject to the conditions observed in the landfill cells has not been documented. It does not at present seem possible to evaluate the risk of PFAS concentration in the cells over time once the treatment has been implemented. However, given that the landfill cells are watertight, and provision has been made to manage all the leachate water in the pretreatment system, the PFAS targeted by the treatment will be in a closed loop, which should facilitate the control of discharges.

Given the risk of leaching discussed earlier and that solid residues stemming from the solidification of the concentrate will occupy a volume in the landfill, it could eventually be relevant to contemplate the introduction of a PFAS destructive technology in addition to foam fractionation. However, the solutions now available are either not economically viable and involve risks that are not fully understood, e.g., energy-intensive incineration from which potential by-products from the combustion of PFAS are not well known, or their maturity level is low (technologies under development or whose application is, for the time being, limited (ITRC, 2023).

**In this context, the choice of the concentrate management method seems appropriate. However, a reassessment of the choice could be relevant according to the advancement of knowledge on the potential leaching of the solidified concentrate and its impact on the quality of the water discharged, and knowledge of PFAS destructive technologies**.

## 5. An incoherence pinpointed in the VANR's documents

The draft permit's pH limits differ from those in the fact sheet. The fact sheet indicates 5 to 9, and the draft permit, 5 to 9.5.

## 6. References cited in the comments

American Water Works Association (AWWA). (2021). *Per- and Polyfluoroalkyl Substances (PFAS): EPA Methods for PFAS in Water*, 2 p. https://www.awwa.org/Portals/0/AWWA/ETS/Resources/Technical%20Reports/Overview%20of%20EPA%20Methods%20for%20Water.pdf?ver=2021-10-15-114700-057

Brown and Caldwell. (2023). *Leachate Treatment Study Plan for New England Waste Services (NEWSVT) Landfill: As Required by Condition I.A.5 of the State of Vermont Agency of Natural Resources Department of Environmental Conservation Watershed Management Division Pretreatment Discharge Permit 3-1406* (Project Number: 157518), 56 p.

Environnement et Changement climatique Canada et Santé Canada (ECCC et SC). (2023). *Rapport sur l'état des substances perfluoroalkyliques et polyfluoroalkyliques (SPFA) : ÉBAUCHE*, 247 p. https://www.canada.ca/fr/environnement-changement-climatique/services/evaluation-substances-existantes/ebauche-rapport-etat-substances-perfluoroalkyliques-polyfluoroalkyliques.html

Interstate Technology & Regulatory Council (ITRC). (2023). *12 Treatment Technologies*. https://pfas-1.itrcweb.org/12-treatment-technologies/

Santé Canada (SC). (2022). *Objectif pour la qualité de l'eau potable au Canada : Substances perfluoroalkylées et polyfluoroalkylées*, 26 p. https://www.canada.ca/fr/sante-canada/programmes/consultation-objectif-propose-qualite-eau-potable-canada-substances-perfluoroalkylees-polyfluoroalkylees/apercu.html

Vermont Agency of Natural Resources (ANR). (2022). *2021 Vermont Per- and Polyfluoroalkyl Substances (PFAS) Surface Water, Fish Tissue, and Wastewater Treatment Facility Effluent Monitoring Report*, 73 p. https://dec.vermont.gov/sites/dec/files/wsm/mapp/docs/2021-PFAS-Surface-Water-Fish-Tissue-and-WWTF-Effluent-Monitoring-Report.pdf

Vermont Agency of Natural Resources (ANR). (2023). *Fact Sheet for Amended Permit – Pretreatment Discharge Permit No.: 3 1406* (Pin: WY06-0020), 18 p.

## 7. Summary

- The modifications made to the permit and presented in the draft permit seek to clarify the Vermont Agency of Natural Resources (VANR)'s expectations in relation to monitoring and the information to be reported by the applicant in the context of the PFAS pretreatment pilot tests to be conducted on the Coventry EL site.
    - The draft permit does not under any circumstances allow for the discharge of leachate water at the Newport municipal wastewater treatment plant that flows into the Lake Memphremagog drainage basin.
    - It concerns a discharge at the Montpelier municipal wastewater treatment plant that flows into the Winooski River in the Lake Champlain drainage basin.
- Foam fractionation is the solution adopted to pretreat leachate water before discharge from the Montpelier municipal wastewater treatment plant.
    - This technology is deemed to be mature and has already been implemented full scale to treat leachate EL water (ITRC, 2023).
    - Foam fractionation is recognized as being highly effective to remove long-chain PFAS such as PFOS and PFOA.

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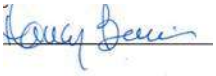
  - Its effectiveness in removing short-chain PFAS is mitigated, which would be a weakness given that the literature does not indicate that certain PFAS do not pose a threat.
  - For the time being, the pilot project targets the removal of five PFAS that are regulated in Vermont drinking water. The technology chosen seems appropriate for this objective.
- The USEPA has not for the time being adopted a discharge limit for PFAS in EL.
  - The VANR intends to use data collected in the context of the pilot project to establish the technological limitations specific to the project.
- For the time being, no official surface water quality criteria for PFAS exist at the state and federal levels in the United States.
  - Criteria respecting PFOS and PFOA are published on the MELCCFP website. The most restrictive criteria concern the prevention of the contamination of water and aquatic organisms such as fish, which can be subsequently consumed. They are based on Michigan's criteria.
  - The draft permit includes clauses to modify the permit to add monitoring of fish tissues or to incorporate release limits based on new surface water quality criteria.
- The draft permit makes provision for a pretreatment system affluent and effluent monitoring program at the Montpelier municipal wastewater treatment plant and in the Winooski River.
  - While the key focus is on the five PFAS regulated in drinking water in Vermont, the method of analysis of the USEPA specified in the draft permit includes 39 congeners.
  - The results can be compared with the list used by Health Canada in respect of its interim target governing drinking water, which includes 29 PFAS.
  - In Québec, the monitoring of PFAS in EL is confined for the time being to one-off knowledge acquisition projects. The addition of the monitoring of PFAS was recently requested of EL submitting authorization requests or engaged in the environmental assessment process (no data collected to date). A recommendation was also made to add the monitoring of PFAS in the *Regulation respecting the landfilling and incineration of residual materials*.
- The concentrate management method announced in respect of concentrate generated by foam fractionation calls for solidification using Portland (or similar) cement before burial in EL cells.
  - The most extensively documented application for the stabilization/solidification is the treatment of soils or sediments containing PFAS. This technology is classified as under development and its application for the time being is limited.

- The leaching potential of PFAS contained in solids once they are subject to the conditions observed in the landfill cells has not, to our knowledge, been documented.
- Given that the landfill cells are watertight and that all the leachate water would eventually be managed in the pretreatment system, the PFAS targeted by the treatment will be in a closed loop, which should facilitate the control of their discharge.
- The establishment of a PFAS destructive technology in addition to foam fractionation could be contemplated. However, the solutions available can be energy-consuming and involve risks such as incineration that are not fully understood or have low maturity level.

**The PDF copy is signed electronically.**

Bernard Patry, ing., Ph. D.

**Approuvé par:**



Nancy Bernier
Directrice principale des eaux usées

Date : 2023-12-19

Ministère
de l'Environnement,
de la Lutte contre
les changements
climatiques, de la Faune
et des Parcs
Québec

Direction principale des eaux usées

# Avis technique

DATE : Le 12 décembre 2023

OBJET : **Commentaires sur le projet de permis pour le lieu d'enfouissement technique de Coventry**

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En premier lieu, il est important de mentionner que le projet de permis modifié **ne permet en aucun cas le rejet d'eaux de lixiviation à la station de traitement des eaux usées municipale de Newport qui se rejette dans le bassin versant du lac Memphrémagog. Il concerne un rejet à la station municipale de Montpelier qui se rejette dans la rivière Winooski, dans le bassin versant du lac Champlain**.

Le permis a été amendé pour préciser les attentes par rapport au suivi et aux informations à rapporter à l'Agence des ressources naturelles du Vermont (Agence) dans le cadre des essais pilotes de prétraitement des SPFA qui seront réalisés sur le site du LET de Coventry. Selon notre compréhension, le permis devra être modifié à nouveau pour permettre une installation permanente de traitement des SPFA sur le site. L'Agence mentionne qu'elle a l'intention, après l'acceptation de l'étude pilote, de demander une implémentation à pleine échelle du prétraitement au LET de Coventry.

À titre indicatif, des relevés réalisés au Vermont ont montré que les concentrations en SPFA à l'effluent des stations d'épuration municipales recevant des eaux de lixiviation de LET sont plus élevées que celles qui n'en acceptent pas. Cependant, les effluents des stations qui ne reçoivent pas de lixiviat contiennent tout de même des SPFA. Par exemple, l'effluent de la station de Newport, en amont du lac Memphrémagog, présentait des concentrations de 67-129 ng/l pour la somme des SPFA analysés, comparativement à 80-378 ng/l pour la station de Montpelier qui reçoit des eaux de lixiviation du LET de Coventry (Vermont ANR, 2022).

## 1. Technologie de traitement des eaux sélectionnée

Le fractionnement par moussage (*foam fractionation*) est la solution retenue pour prétraiter les eaux de lixiviation avant le rejet à la station municipale de Montpelier. Cette technologie est considérée comme mature et a déjà été implémentée à l'échelle réelle pour le traitement d'eaux de lixiviation de LET (ITRC, 2023). Elle est particulièrement attrayante pour le traitement des eaux de lixiviation de LET, des effluents très complexes et chargés, parce qu'elle peut traiter efficacement un large éventail de qualité d'eau sans nécessiter de prétraitement.

Le fractionnement par moussage est reconnu comme très efficace pour enlever les SPFA à longue chaîne comme le PFOS et le PFOA. Toutefois, son efficacité reste mitigée pour ce qui est de l'enlèvement des SPFA à courte chaîne (ITRC, 2023). Cela pourrait constituer une faiblesse pour la technologie étant donné que la littérature n'indique pas que certaines SPFA (p. ex. celles à courte chaîne) ne présentent pas de danger (ECCC et SC, 2023). Les données de performance de

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Édifice Marie-Guyart
675, boulevard René-Lévesque Est
Québec (Québec) G1R 5V7
Courriel : bernard.patry@environnement.gouv.qc.ca
Internet : http://www.environnement.gouv.qc.ca

la technologie présentées en pièce jointe du projet de permis (Brown and Caldwell, 2023) montrent d'ailleurs de faibles enlèvements (15-49 %) pour quatre SPFA à courte chaîne (PFBA, PFPeA, PFHxA et PFBS). Ces derniers se trouvent à être les plus concentrés dans les eaux de lixiviation d'un LET québécois, selon les résultats d'une campagne d'échantillonnage récente. De plus, à titre indicatif, les concentrations rapportées en pièce jointe du projet de permis pour les cinq SPFA réglementés au Vermont dans l'eau potable sont toutes supérieures à celles mesurées lors de l'échantillonnage récent de ce LET québécois. Cela traduit soit une concentration totale de SPFA supérieure à Coventry, soit un profil différent en ce qui a trait aux congénères dominants, ou les deux à la fois.

Considérant le fait que le prétraitement des SPFA dans les LET reste encore peu commun vu l'émergence de la problématique et l'absence de limites pour cette famille de contaminants dans la réglementation américaine[1], tout comme dans la réglementation québécoise[2], **le choix de technologie apparaît approprié pour l'objectif visé, soit principalement la réduction des cinq SPFA réglementés dans l'eau potable au Vermont**.

Toutefois, **la technologie ne performant pas de manière égale pour l'enlèvement de toutes les SPFA, elle pourrait s'avérer insuffisante pour atteindre un objectif visant p. ex. la somme d'une liste plus exhaustive de SPFA incluant des congénères à courte chaîne**. Un tel objectif serait potentiellement plus cohérent avec le fait que la littérature n'indique pas que certaines SPFA ne présentent pas de danger (ECCC et SC, 2023).

**Il serait pertinent pour la Direction principale des eaux usées (DPEU) d'avoir accès aux résultats de l'étude pilote qui générera certainement de l'information utile qui pourrait potentiellement servir pour les LET québécois.**

## 2. Normes de rejet et critères de qualité de l'eau

L'Agence compte utiliser les données collectées dans le cadre du projet pilote pour établir des limites technologiques spécifiques au projet. La méthodologie mentionnée pour l'établissement des limites est basée sur la documentation de la USEPA qui est également utilisée par la DPEU pour le même genre d'application.

Les arguments avancés pour justifier l'utilisation de normes technologies sont que la USEPA n'a pour l'instant pas de limite de rejet pour les SPFA et qu'il n'y a pas non plus de critères de qualité de l'eau de surface officiels pour ces substances, tant au niveau de l'état que du fédéral.

[1] Des limites sont cependant attendues avant 2028 (Vermont ANR, 2023).
[2] Aucun LET québécois, qu'il se retrouve en amont de prises d'eau potable ou non, n'inclut actuellement de traitement visant spécifiquement les SPFA.

Au Québec, des critères sont publiés sur le site Web du Ministère pour le PFOS et le PFOA. Les critères les plus contraignants concernent la prévention de la contamination de l'eau et des organismes aquatiques (comme le poisson qui peut être consommé par la suite). Ils sont basés sur les critères de l'état du Michigan et sont largement plus faibles que les critères préliminaires de la USEPA pour la protection de la vie aquatique (aiguë et chronique) qui sont cités dans la fiche descriptive accompagnant le projet de permis. Considérant les enjeux liés à la contamination potentielle de prises d'eau potable par les SPFA, **il serait pertinent que l'Agence utilise les critères appropriés, selon les usages, pour réaliser des comparaisons avec les rejets dans le milieu récepteur**. À cet effet, le projet de permis inclut tout de même des clauses permettant de modifier le permis pour ajouter un suivi de tissus de poissons ou encore pour incorporer des limites de rejet basées sur de nouveaux critères de qualité de l'eau de surface.

## 3. Programme de suivi

Le projet de permis inclut des suivis de SPFA à la station d'épuration municipale de Montpelier et dans le milieu récepteur, focussant principalement sur cinq SPFA (PFOA, PFOS, PFHxS, PFHpA et PFNA) qui sont réglementés au Vermont pour l'eau potable. La somme des cinq SPFA ne doit pas dépasser 20 ng/l dans l'eau potable. À titre comparatif, l'objectif provisoire de Santé Canada est de 30 ng/l pour la somme de 29 SPFA (SC, 2022). Cet objectif, qui implique une liste plus longue de SPFA, est, comme mentionné précédemment, plus cohérent avec le fait que la littérature n'indique pas que certaines SPFA ne présentent pas de danger (ECCC et SC, 2023). **Il serait donc pertinent d'évaluer les résultats de l'étude pilote (p. ex. les enlèvements des différentes SPFA) en considérant la liste de SPFA associée à l'objectif provisoire de Santé Canada**. Une telle comparaison devrait être possible étant donné que les méthodes d'analyse de la USEPA spécifiées dans le projet de permis (méthode 1633) et dans le document technique de Santé Canada concernant l'objectif préliminaire pour la qualité de l'eau potable (méthodes 537.1 et 533) incluent les mêmes congénères (AWWA, 2021).

Le suivi des SPFA demandé spécifiquement pour l'étude pilote dans le projet de permis inclut un suivi deux fois par mois à la station municipale (affluent, effluent et boues) ainsi qu'un suivi mensuel à l'affluent et à l'effluent du système de traitement pilote, et ce pour un minimum de 180 jours. De plus, il est mentionné dans les documents joints au projet de permis que la technologie choisie est résiliente face aux variations des conditions environnementales (Brown and Caldwell, 2023). **Le programme de suivi devrait donc permettre d'obtenir un portrait complet des performances du système pilote et de l'effet sur l'effluent de la station de traitement municipale**. À titre comparatif, la DPEU a recommandé d'ajouter un suivi des SPFA à une fréquence trimestrielle à l'effluent des LET dans le cadre de la révision en cours du *Règlement sur l'enfouissement et l'incinération de matières résiduelles*.

## 4. Gestion du concentrat

La technologie retenue pour les essais pilotes (fractionnement par moussage) génère un concentrat qui doit être traité ou éliminé. Le mode de gestion du concentrat annoncé consiste en la solidification à l'aide de ciment Portland (ou similaire) avant l'enfouissement dans les cellules du LET. À titre informatif, la stabilisation/solidification pour le traitement de sols ou de sédiments contenant des SPFA, ce qui constitue à notre connaissance l'application la mieux documentée pour cette technique, est classée comme une technologie de traitement en développement et dont l'application est pour l'instant limitée (ITRC, 2023).

À notre connaissance, le potentiel de lixiviation des SPFA contenues dans les solides (béton) une fois qu'ils seront soumis aux conditions observées dans les cellules d'enfouissement n'est pas documenté. Il ne semble donc actuellement pas possible d'évaluer le risque de concentration des SPFA dans les cellules au fil du temps, une fois le traitement en place. Toutefois, considérant que les cellules d'enfouissement sont étanches et qu'il est prévu de gérer l'entièreté des eaux de lixiviation dans le système de prétraitement, les SPFA visées par le traitement se retrouveront dans une boucle fermée, ce qui devrait permettre de contrôler les rejets.

Considérant le risque de lixiviation discuté ci-avant et le fait que les résidus solides issus de la solidification du concentrat occuperont un volume dans le lieu d'enfouissement, il pourrait éventuellement être pertinent de réfléchir à l'implantation d'une technologie de destruction des SPFA en complément au fractionnement par moussage. Toutefois, à l'heure actuelle, les solutions disponibles ne sont soit pas viables économiquement et comportent des risques qui ne sont pas bien compris (p. ex. l'incinération qui est énergivore et dont les sous-produits potentiels de la combustion de SPFA ne sont pas bien connus), soit leur niveau de maturité est faible (technologies en développement ou dont l'application est pour l'instant limitée) (ITRC, 2023).

**Dans ce contexte, le choix du mode de gestion du concentrat semble approprié. Une réévaluation de ce dernier pourrait toutefois être pertinente en fonction de l'avancement des connaissances sur la potentielle lixiviation du concentrat solidifié et son incidence sur la qualité des eaux rejetées, et des connaissances sur les technologies de destruction des SPFA**.

## 5. Incohérence identifiée dans les documents de l'Agence

Les pH limites du projet de permis sont différents de ceux de la fiche descriptive (*fact sheet*). On peut lire 5 à 9 dans la fiche et 5 à 9,5 dans le projet de permis.

## 6. Références citées dans les commentaires

American Water Works Association (AWWA). (2021). *Per- and Polyfluoroalkyl Substances (PFAS): EPA Methods for PFAS in Water*, 2 p. https://www.awwa.org/Portals/0/AWWA/ETS/Resources/Technical%20Reports/Overview%20of%20EPA%20Methods%20for%20Water.pdf?ver=2021-10-15-114700-057

Brown and Caldwell. (2023). *Leachate Treatment Study Plan for New England Waste Services (NEWSVT) Landfill: As Required by Condition I.A.5 of the State of Vermont Agency of Natural Resources Department of Environmental Conservation Watershed Management Division Pretreatment Discharge Permit 3-1406* (Project Number: 157518), 56 p.

Environnement et Changement climatique Canada et Santé Canada (ECCC et SC). (2023). *Rapport sur l'état des substances perfluoroalkyliques et polyfluoroalkyliques (SPFA) : ÉBAUCHE*, 247 p. https://www.canada.ca/fr/environnement-changement-climatique/services/evaluation-substances-existantes/ebauche-rapport-etat-substances-perfluoroalkyliques-polyfluoroalkyliques.html

Interstate Technology & Regulatory Council (ITRC). (2023). *12 Treatment Technologies*. https://pfas-1.itrcweb.org/12-treatment-technologies/

Santé Canada (SC). (2022). *Objectif pour la qualité de l'eau potable au Canada : Substances perfluoroalkylées et polyfluoroalkylées*, 26 p. https://www.canada.ca/fr/sante-canada/programmes/consultation-objectif-propose-qualite-eau-potable-canada-substances-perfluoroalkylees-polyfluoroalkylees/apercu.html

Vermont Agency of Natural Resources (ANR). (2022). *2021 Vermont Per- and Polyfluoroalkyl Substances (PFAS) Surface Water, Fish Tissue, and Wastewater Treatment Facility Effluent Monitoring Report*, 73 p. https://dec.vermont.gov/sites/dec/files/wsm/mapp/docs/2021-PFAS-Surface-Water-Fish-Tissue-and-WWTF-Effluent-Monitoring-Report.pdf

Vermont Agency of Natural Resources (ANR). (2023). *Fact Sheet for Amended Permit – Pretreatment Discharge Permit No.: 3 1406* (Pin: WY06-0020), 18 p.

## 7. Résumé

- Les modifications apportées au permis et présentées dans le projet de permis visent à préciser les attentes de l'Agence des ressources naturelles du Vermont (Agence) par rapport au suivi et aux informations à rapporter par le demandeur dans le cadre des essais pilotes de prétraitement des SPFA qui seront réalisés sur le site du LET de Coventry.

  - Le projet de permis ne permet en aucun cas le rejet d'eaux de lixiviation à la station de traitement des eaux usées municipale de Newport qui se rejette dans le bassin versant du lac Memphrémagog.
  - Il concerne un rejet à la station municipale de Montpelier qui se rejette dans la rivière Winooski, dans le bassin versant du lac Champlain.
- Le fractionnement par moussage (*foam fractionation*) est la solution retenue pour prétraiter les eaux de lixiviation avant le rejet à la station municipale de Montpelier.
  - Cette technologie est considérée comme mature et a déjà été implémentée à l'échelle réelle pour le traitement d'eaux de lixiviation de LET.
  - Le fractionnement par moussage est reconnu comme très efficace pour enlever les SPFA à longue chaîne comme le PFOS et le PFOA.
  - Son efficacité reste mitigée pour l'enlèvement de SPFA à courte chaîne, ce qui pourrait constituer une faiblesse étant donné que la littérature n'indique pas que certaines SPFA ne présentent pas de danger.
  - Pour l'instant, le projet pilote vise principalement l'enlèvement des cinq SPFA qui sont réglementés dans l'eau potable au Vermont. La technologie choisie semble appropriée pour cet objectif.
- La USEPA n'a pour l'instant pas de limite de rejet pour les SPFA dans les LET.
  - L'Agence compte utiliser les données collectées dans le cadre du projet pilote pour établir des limites technologiques spécifiques au projet.
- Il n'y a pour l'instant pas de critères de qualité de l'eau de surface officiels pour les SPFA, tant au niveau de l'état que du fédéral aux États-Unis.
  - Des critères sont publiés sur le site Web du MELCCFP pour le PFOS et le PFOA. Les critères les plus contraignants concernent la prévention de la contamination de l'eau et des organismes aquatiques (comme le poisson qui peut être consommé par la suite). Ils sont basés sur les critères de l'état du Michigan.
  - Le projet de permis inclut des clauses permettant de modifier le permis pour ajouter un suivi de tissus de poissons ou encore pour incorporer des limites de rejet basées sur de nouveaux critères de qualité de l'eau de surface.
- Un programme de suivi à l'affluent et à l'effluent du système de prétraitement, à l'affluent et à l'effluent de la station municipale de Montpelier et dans la rivière Winooski est prévu dans le projet de permis.
  - Bien que le focus principal soit sur les cinq SPFA réglementés au Vermont dans l'eau potable, la méthode d'analyse de la USEPA spécifiée dans le projet de permis inclut 39 congénères

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  - Les résultats pourront notamment être comparés avec la liste utilisée par Santé Canada pour son objectif provisoire pour l'eau potable qui inclut 29 SPFA.
  - Au Québec, le suivi des SPFA dans les LET se limite pour l'instant à des projets d'acquisition de connaissances ponctuels. L'ajout du suivi des SPFA a récemment été demandé à des LET en demande d'autorisation ou en processus d'évaluation environnementale (aucune donnée récoltée pour l'instant). Une recommandation a également été faite pour ajouter le suivi des SPFA dans le *Règlement sur l'enfouissement et l'incinération de matières résiduelles*.
- Le mode de gestion annoncé pour le concentrat généré par le fractionnement par moussage consiste en la solidification à l'aide de ciment Portland (ou similaire) avant l'enfouissement dans les cellules du LET.
  - L'application la plus documentée pour la stabilisation/solidification est le traitement de sols ou de sédiments contenant des SPFA. Il s'agit d'une technologie est classée en développement et dont l'application est pour l'instant limitée.
  - Le potentiel de lixiviation des SPFA contenues dans les solides une fois qu'ils seront soumis aux conditions observées dans les cellules d'enfouissement n'est à notre connaissance pas documenté.
  - Considérant que les cellules d'enfouissement sont étanches et que l'entièreté des eaux de lixiviation serait éventuellement gérée dans le système de prétraitement, les SPFA visées par le traitement seront dans une boucle fermée, ce qui devrait permettre de contrôler leur rejet.
  - L'implantation d'une technologie de destruction des SPFA en complément au fractionnement par moussage pourrait être envisagée. Toutefois, les solutions disponibles peuvent être énergivores et comporter des risques qui ne sont pas bien compris (p. ex. l'incinération) ou avoir un niveau de maturité faible.

Bernard Patry, ing., Ph. D.

**Approuvé par:**

Nancy Bernier — Date : 2023-12-19
Directrice principale des eaux usées

Ministère
de l'Environnement,
de la Lutte contre
les changements
climatiques, de la Faune
et des Parcs
Québec

Direction générale de l'analyse et de l'expertise
du Centre et du Sud

PAR COURRIEL

Longueuil, le 20 décembre 2023

Agency of Natural Resources
Department of Environmental Conservation
Watershed Management Division
1 National Life Drive
Davis 3, Vermont 05620-3522

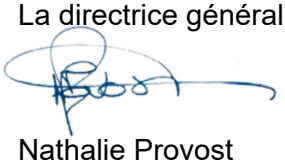
Madame,
Monsieur,

Vous trouverez ci-joint l'avis du ministère de l'Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs (MELCCFP) concernant le projet de permis numéro 3-1406 du Vermont pour l'entreprise New England Waste Services inc.

Cet avis représente l'avis officiel du MELCCFP dans le cadre du processus d'émission de votre permis. Nous vous remercions de l'opportunité qui nous est donnée de contribuer au maintien de la qualité des cours d'eau limitrophes et souhaitons poursuivre la collaboration établie entre nos organisations.

Veuillez agréer, Madame, Monsieur, l'expression de nos sentiments les meilleurs.

La directrice générale,



NP/imb

Nathalie Provost

c. c. Mme Julie Moore, secrétaire de l'Agence des ressources naturelles du Vermont
M. Pierre-Luc Gravel, directeur de la Direction des relations internationales et canadiennes au MELCCFP

**BUREAU DE LA DIRECTION GÉNÉRALE**
***Responsable des régions de l'Estrie, de la Montérégie, de la Mauricie, du Centre-du-Québec et de la Chaudière-Appalaches***
201, place Charles-Le Moyne, 2e étage
Longueuil (Québec) J4K 2T5
Téléphone : 450 928-7607, poste 225
Télécopieur : 450 928-7755
Courriel : nathalie.provost@environnement.gouv.qc.ca
Internet : www.environnement.gouv.qc.ca

**From:** Peggy Stevens <pegnericstevens@gmail.com>
**Sent:** Wednesday, December 20, 2023 11:14 AM
**To:** Polaczyk, Amy; LaFlamme, Pete
**Subject:** Public Comments 3-1406
**Attachments:** 12-20-23 Public Comment Amended Permit 3-1406 (2).pdf



Dear Ms. Polaczyk and Mr. LaFlamme,
I tried sending to http://enb.vermont.gov (ENB ID = 23.0022657) without success.

Attached are comments from me and Ann Lembo. Thank you for your attention and consideration prior to the final decision. We trust our concerns will be reflected in the final analysis.

Best wishes for a healthy and happy holiday and new year,
Peggy Stevens

Vermont Agency of Natural Resources/ Dept. of Environmental Conservation
Watershed Management Division
Draft Pretreatment Discharge Permit 3-1406 (Amended)
New England Waste Services of Vermont, Inc.
December 20,2023

**Public Comments for Dec 12, 2023 Public Hearing**
**3-1406 Amended Leachate Pre-Treatment Discharge Permit**
Submitted by: Peggy Stevens, Charleston, VT
Ann Lembo, Albany, VT
Members DUMP Advisory Committee
Delivered by Peggy Stevens, speaking on behalf of Ann Lembo as well.

I am here to say yes to every point made about the need to protect the public health, to ensure environmental protection and to ensure environmental justice on both sides of the border in the Memphremagog Basin.

Specifically, I will point out the fatal insufficiencies in the SAFF design, and the NEWSVT and DEC plans, that must be corrected before the leachate treatment plan is permitted to be built in central Vermont, out of the Memphremagog watershed, nearest where most of Vermont's waste comes from.

First, leachate experts Civil Environmental Consultants, Inc, required by DEC to provide a third party review of the NEWSVT Plan, sent a letter report in June 2023 citing "insufficiencies" in the technology, which are also identified in the 2022 research article **https://onlinelibrary.wiley.com/doi/10.1002/rem.21720?af=R** , by David Burns, lead EPOCEnviro SAFF scientist. He states reasons why the SAFF process is insufficient in filtering PFAS effectively on its own, but must be considered as one step in the "treatment train" in order to effectively remove and destroy PFAS.

Each of the first three CEC recommendations that would improve the process and protect the public, including filtering air emissions for PFAS, were kicked to the side by NEWSVT, as was the fourth and scariest:

- the need to address the "insufficient" plan for handling of residual, "hyper concentrate" PFAS foam. Burns and the science community agree that short-chain PFAS molecules are as or more harmful as long-chain PFAS, largely escape filtration, and so are ultimately released into the environment. It is for this reason David Burns writes, "Of course, there is **no suggestion that the treated landfill leachate should be** used directly as potable water or **allowed**

**to discharge or otherwise migrate into receiving waters reserved for drinking water."**

Burns and the entire science community say highly toxic, PFAS laden residuals "must be destroyed… utilizing a range of destruction technologies (e.g., supercritical water oxidation, plasma or electrochemical oxidation")

In response to this cited insufficiency, NEWSVT says that residuals will be combined with Portland cement and placed in the landfill.
Science says this is totally unacceptable, that cement is porous and both absorbs and releases PFAS when exposed to water.

What are the credentials of NEWSVT staff to so arrogantly ignore the recommendations of experts?
The technology is not up to the task, the NEWSVT plan even less so. It is insufficient on its face.

Worse, the DEC has stated that they intend to write Technology Based Effluent Limitations based on the first 180 days of operation of the NEWSVT system (which 180? The 180 before the permit is issued, or after?). TBELs are derived by

- using EPA guidelines and standards, (Which there are none) and/or
- using **best professional judgement** (BPJ) on a case-by-case basis (in the absence of national guidelines and standards.)

Whose best professional judgement? Leachate treatment experts CEC, or EPOCEnviro lead scientist David Burns? Or the private corporation that has a history of environmental negligence and violations throughout New England?

Recall the 154,000-gallon leachate spill in Bethlehem NH a few years ago? The same staffing pattern that existed there and then is written into the NEWSVT plan. The system is and has been and will be operational since September, 2023, "24/7". But operations personnel will be on site only 8 hours a day during the week and maybe 2 hours over the weekend. When a breakdown occurs, when the operational system fails, the same catastrophic spill would occur and migrate to the South Bay of the Lake.

This environmental cataclysm must not be permitted to occur, anywhere. Leachate treatment can't just be "better than nothing", it must be the most effective, state of the art technology available, not the most cost effective. It is up to the ANR/DEC

to make sure that Vermont leads the way to capture, contain and destroy landfill PFAS so that it may never reenter the environment. EVER.

The insufficiencies of the system being proposed by NEWSVT as the pilot, and which the DEC proposes to authorize in the amended permit, are rebutted by the EPOCEnviro lead scientist David Burns and the Civil Environmental Consultants report required by DEC. The DEC is proposing, in effect, to build a permanent leachate PFAS treatment system on a flawed foundation.

Leachate treatment to remove toxic landfill contaminants must be required, but it is the ANR/DEC that must ensure the most stringent and effective technology be applied in the process.

**December 20, 2023**
**Written Comments: 3-1406 Amended Leachate Pre-Treatment Discharge Permit:**
submitted by Peggy Stevens, Charleston and Ann Lembo, Albany,
DUMP Advisory Committee

We assert:
Vermont law and ANR regulations must be enforced in order to ensure:

- Protection of Public Health and Safety
- Protection of the Environment and Natural Resources
- Environmental Justice for All

- Lake Memphremagog is a drinking water reservoir for 175,000 Quebec citizens and US citizens as well. "The EPA Safe Drinking Water Act ensure that the nation's public drinking water supply and its sources (rivers, lakes, reservoirs, springs, and ground water wells) are protected."Jun 9, 2023 https://www.epa.gov/enforcement/water-enforcement#:~:text=EPA%20safeguards%20human%20health%20by,ground%20water%20wells)%20are%20protected.This must extend to protect our Quebec neighbors as well. Make the current Lake Memphremagog moratorium permanent: No landfill leachate will be treated or disposed of anywhere in the Lake Memphremagog watershed, ever.

- Lake Memphremagog is a habitat for Vermont and Quebec fish and wildlife. The Clean Water Act, https://www.justice.gov/enrd/water with its goal "to restore and maintain the chemical, physical, and biological integrity of the

Nation's waters," is our most powerful tool for safeguarding water quality, wetlands, and riparian habitat.

- 30-40% of the lake's Brown Bullhead have cancerous melanomas, liver and kidney lesions. These fish are found nowhere else in Vermont and only in environmentally contaminated waters. https://www.vermontpublic.org/local-news/2023-09-13/brown-bullhead-fish-cancer-melanoma-lake-memphremagog-vermont-genetics-research; Malignant melanoma of brown bullhead (*Ameiurus nebulosus*) in Lake Memphremagog, Vermont/Quebec Vicki S. Blazer[1] https://onlinelibrary.wiley.com/doi/10.1111/jfd.13112
- Lake Memphremagog is an economic driver for communities around the lake on both sides of the border. Our recreational economy depends on the purity of our natural resources- water, air and landscape- to attract tourists and second-home owners. The Clean Water Act focuses on protecting the quality of navigable waters by ensuring they are fishable and swimmable. "The Clean Water Act ensures communities have the resources they need to protect water supplies, purify drinking water and treat sewage so that America's waters continue to provide fish and wild- life habitat and allow us to enjoy activities like fishing, swimming and boating. https://www.nwf.org/-/media/Documents/PDFs/Waters/Clean-Water-Act-101#:~:text=The%20Clean%20Water%20Act%20ensures,like%20fishing%2C%20swimming%20and%20boating.
- The Coventry landfill is arguably the worst site for a landfill anywhere in this nation, uphill and within ¼ mile of the Black River, ½ mile of the South Bay of international Lake Memphremagog, a drinking water reservoir. The landfill is surrounded by hundreds of acres of protected wetlands and wildlife management area. Toxic PFAS compounds, not naturally occurring, are measurable in Coventry landfill groundwater wells, and this research article states, "Volatile PFAS are emitted into the air from landfills and wastewater treatment plants " https://pubmed.ncbi.nlm.nih.gov/32698118/ eventually contaminating surrounding soil and groundwater. Environmental protection requires strictest oversight and engineering to contain, capture and destroy toxic landfill contaminants.
- Our Memphremagog watershed communities contribute approximately 5% of the total annual tonnage to the landfill, yet we bear the entire environmental threat and burden. Environmental justice demands the leachate be sent back to where it came from for treatment. The pilot leachate treatment facility should be built in the central Vermont Montpelier vicinity where the greatest %age of Vermont's solid waste is produced. No permit should be issued for leachate treatment infrastructure onsite in Coventry.

- In order to ensure protection of the public health and environment, the permit for leachate treatment facility construction out of the Memphremagog watershed must ensure the most effective, multi-stage treatment train technology be used, including for destruction of residuals The goal of leachate treatment is to capture, contain and prevent landfill contaminants, including toxic PFAS, from reentering the environment.

**Concerns about the NEWSVT Leachate Treatment Plan as written:**

Leachate treatment to remove toxic landfill contaminants must be required, but it is the ANR/DEC that must ensure the most stringent and effective technology be applied in the process. As it stands, the plan is to develop performance standards for PFAS removal based on the first 180 days of operation.
To the extent that the TBEL standard in 40 CFR 125.3 https://www.law.cornell.edu/cfr/text/40/125.3 is being advanced by the DEC as the applicable regulatory standard for a permanent pretreatment system dependent on the results of the pilot system (after 180 days of operation ), the insufficiencies of the system being proposed by NEWSVT as the pilot, and which the DEC proposes to authorize in the amended permit, are rebutted by the EPOCEnviro lead scientist David Burns and the Civil Environmental Consultants report required by DEC. The DEC is proposing, in effect, to build a permanent leachate PFAS treatment system on a flawed foundation:

- David Burns is one of the creators of the SAFF leachate treatment technology chosen by NEWSVT. In this research article Burns reveals that while there is promise in this technology, there are also reasons why the SAFF process is insufficient in filtering PFAS effectively on its own: **https://onlinelibrary.wiley.com/doi/10.1002/rem.21720?af=R** ,
    - The scientific community, including Burns, is unanimous in stating that short-chain PFAS compounds - as or more harmful as long-chain- are not filtered adequately if at all. “An important limitation (of SAFF) is the low removal efficiency of short-chain PFAS.” Even if 5 or 50 of the 15,000 PFAS compounds are filtered to within 2 ppt, thousands more will escape into the environment to accumulate, and even transform into more hazardous forms of PFAS; PFAS precursors, once thought to perhaps be less toxic, in a given environment can regroup into highly toxic compounds. An ND result in sampling analysis does not mean that a significant number of ppts of the most hazardous, including PFOA or PFOS which the EPA says should be limited to .004 ppt, will not escape into the environment and accumulate. There are at least 15,000 PFAS compounds, many of

which are short-chain, which escape filtration because they are so small; " the process was less effective in removing the smallest and largest PFAS molecules. "... "the sum of the mean concentrations of SLV-11 PFAS in the treated streams is 1260 ng/L ... This is caused by the presence of the short-chain species PFHxA, PFBS, PFPeA, and PFBA, which are less amenable to adsorption to bubble or solid surfaces."

- For this reason, David Burns writes, "Of course, there is **no suggestion that the treated landfill leachate should be** used directly as potable water or **allowed to discharge or otherwise migrate into receiving waters reserved for drinking water."**
- In addition to incomplete filtration of PFAS, the NEWSVT plan lacks the destruction technology called for by Burns for the residual toxic foam: "The end-product... is a highly concentrated aqueous liquid waste (known as the "hyper-concentrate") which is potentially amenable to on-site destruction utilizing a range of commercially available fluorocarbon destruction technologies (e.g., supercritical water oxidation, plasma or electrochemical oxidation)."

- In the third-party review by Civil and Environmental Consultants, Inc., required by the DEC, of the Brown and Caldwell NEWSVT Leachate Treatment Plan, (the June 2023 CEC letter report to Nick Gianetti, DEC ) CEC echoes Burns' cautions, cites insufficiencies and recommends that certain steps must be taken to ensure the effectiveness of the treatment process, and the protection of employees and the environment from escape of PFAS in landfill gas emissions and improperly handled PFAS residuals:
  - The current plan does not include the pretreatment step to clear the influent leachate of particulate matter in order to enhance SAFF filtration process as recommended by CEC. Nor are additives being incorporated in the SAFF process that would maximize foam fractionation of PFAS. Both of these recommendations were turned down by NEWSVT.
  - A CEC recommendation to filter air emissions for PFAS venting from the SAFF trailer to the atmosphere would protect employees and the "over the fence" community in Coventry and downwind of the landfill has also been deemed unnecessary by NEWSVT. NEWSVT declined citing lack of standards for PFAS in air emissions. Lack of standards does not preclude requiring filtration of air venting from the SAFF process, proven to emit PFAS that partition to air, to protect the safety of personnel and the environment.

- And finally, the CEC cautions that the plan for handling the PFAS compounds in the foam residuals, a highly concentrated and highly toxic medium, is insufficient. In a follow-up to this concern by DEC's Amy Polyzcek, NEWSVT's staff states and restates that PFAS foam residuals are being mixed with concrete and deposited in the landfill. Current science advises this is unacceptable. Cement is porous and both absorbs and releases PFAS. Instead, in the NEWSVT plan, the highly toxic hyper concentrate is combined with cement and returned to the landfill, which is porous and both absorbs and releases PFAS, allowing it to further concentrate in landfill leachate. This study of air base fire-fighting foam sites proves that "The maximum concentrations of PFAS in runoff water of five rainfall simulations were similar, suggesting recurring release of PFAS from AFFF impacted concrete, which could be sustained by upward transport of PFAS in the concrete subsurface layers through a potential "wicking" effect."https://www.sciencedirect.com/science/article/pii/S266691102200003X#:~:text=The%20estimated%20mass%20of%20PFAS,PFAS%20in%20runoff%20water%20events.

- Again, what protocols, if any, exist for combining PFAS residuals in cement given it is a dubious practice at best? What safety measures will be required to protect the personnel charged with combining the hyper-concentrated PFAS residuals with cement. Or for retrieving the blocks from the landfill to be subjected to destruction technology once it is recognized as a deficient and even hazardous practice to landfill them? Indeed, how many cement blocks have been landfilled in the first months of unpermitted SAFF operations? Does anyone know where these blocks were deposited and how they may be retrieved?
- Research articles state without exception that the destruction of PFAS in residuals is required, Burns recommending "destructive technologies such as supercritical water oxidation or electrochemical oxidation" .
- In that, in the 2023 leachate sampling and analysis by Waite-Heindel, PFAS in raw leachate was measured at 15,000ppt/liter, and that there are 3.3 liters in a gallon, and that NEWSVT reports that 60,000 gallons a day of leachate are being run through the SAFF system, even at a 98% recovery rate for the five drinking water PFAS, how many million ppts of short-chain and precursor PFAS remain unfiltered? (3.3 liters x 15,000 ppt/liter= 49,500 ppt/gal; 49,500 x 60,000 gpd= 297,000,000 ppt/day) This also explains why the PFAS

foam residual is “highly concentrated” and highly dangerous and must be destroyed, not landfilled in cement.

- Even if there were a 98% effectiveness rate to remove the five VT drinking water PFAS, the short-chain and precursor compounds would escape SAFF filtration and enter the environment; the short-chain proven to be as or more harmful as long-chain, and the PFAS precursors proven to transform into PFOA or PFOS, the most hazardous of all and target of VT drinking water standard.
- The current choice of SAFF technology for PFAS in leachate treatment is agreed by many researchers to be most cost-effective, however, according to research, SAFF is not a stand-alone process, but must be incorporated in a treatment train: “ leachate is particularly complex requiring extensive pretreatment”, “best utilized early in the overall treatment train”. Post treatment is also recommended.
  - ‘End of line technologies of concentrated waste streams is necessary” to filter “the short-chain species PFHxA, PFBS, PFPeA, and PFBA, which are “less amenable to adsorption to bubble or solid surfaces.” “Common field-scale treatments involve the use of adsorbents to concentrate and sequester PFAS, but these actions require the downstream treatment of highly concentrated secondary waste streams. Most of the available treatment technologies claim to treat PFOS and PFOA and some other legacy PFAS, but have not been assessed to treat the entire PFAS family, including emerging PFAS compounds. Furthermore, cost, environmental safety, size, time are competing concerns, with some existing technologies showing advantages over others in individual areas. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7663283/

  It is not for NEWSVT to decline to implement recommendations from experts in the field to maximize the leachate treatment process. Vermont DEC must require NEWSVT to create a treatment chain that will capture, contain and prevent the release of PFAS into the environment. Only when all of these recommendations are incorporated can a TBEL be considered based on SAFF performance after 180 days.

As it stands, the ANR/DEC plan is to develop performance standards for PFAS removal based on the first 180 days of operation. (Which 180? Those for operations before this permit is issued, or after?) To the extent that the TBEL standard in 40 CFR 125.3 https://www.law.cornell.edu/cfr/text/40/125.3 is being advanced by the DEC as the applicable regulatory standard for a permanent pretreatment system , dependent on the results of the flawed pilot system. This is an abominable idea.

The insufficiencies of the system being proposed by NEWSVT as the pilot, and which the DEC proposes to authorize in the amended permit, are rebutted by the EPOCEnviro lead scientist David Burns and the Civil Environmental Consultants report required by DEC. The DEC is proposing, in effect, to build a permanent leachate PFAS treatment system on a flawed foundation: and then develop the TBELs on results that are by default deficient, defective and not protective of the public health or environment.

Returning to the Brown and Caldwell Leachate Treatment plan, another startling insufficiency is the plan for oversight and management of the SAFF technology process onsite by NEWSVT staff. While the plan states that the SAFF technology will be operating 24/7 treating 60,000 gallons of leachate daily (and in fact has been operating without a permit 24/7 since at least September of 2023), personnel will be onsite overseeing operations only eight hours a day five days a week and perhaps up to 2 hours over the entire weekend.

Does anyone recall the leachate spill that occurred at the Bethlehem, NH NCES landfill, owned by Casella, during an extended period of time that operations were not manned by landfill personnel? "The (NH) state Department of Environmental Services says the incident began late on May 1, a Friday, and lasted until the following Monday. Operators arrived to find that a leachate tank had been overflowing all weekend, spilling as much as 154,000 gallons of what's often called "garbage juice." https://www.nhpr.org/climate-change/2021-05-20/leachate-spill-under-investigation-at-bethlehem-landfill-could-be-largest-in-n-h "the leachate traveled through an obsolete pipe that the state says Casella should have decommissioned after a recent expansion." This threat of contamination of the Amonoosuc River followed a lawsuit by the federal government for pollution of that river three years prior.

How is it possible that the current NEWSVT leachate treatment plan would include the same prescription for environmental catastrophe as that which was permitted by NHDEC? Recall the saying, that those who do not learn from history are doomed to repeat it. The corporate landfill owner operator has a long history of environmental violations and penalties at its solid waste facilities across New England.

Another concern is that the same consultants, including Waite- Heindel, Sanborn-Head and Alpha-Analytics have been in the employ of NEWSVT for literally decades. Such an ethical breach is not allowed by Vermont statute for accountants https://legislature.vermont.gov/statutes/fullchapter/26/001 who are limited to a

five-year term and for whom third-party peer review is required. Why is this not the case for a corporate contractor of solid waste disposal? In order to restore public confidence, third-party sampling and analysis of leachate influent, effluent and air emissions must be required similar to the standards for accountants. It is even more necessary in that accountants who make errors for any reason cannot endanger the public and environmental health in the process.

It is obvious that the Vermont ANR and DEC must take back, and exercise, its oversight authority and responsibility for ensuring protection of the environment and public health from a private for-profit corporation, one that is very good at doing its duty to its shareholders, maximizing profit in every conceivable way in the handling and disposal of solid waste.

The only way to ensure that our ANR/DEC is in charge of decision-making and oversight of solid waste management and disposal is for the state to become a market participant in the management of solid waste in Vermont. State ownership of future solid waste management facilities, including the pilot and permanent leachate treatment facility, is the only way forward if we are to protect the environment, the public, our fish and wildlife and to ensure environmental justice for all Vermonters in the handling of the solid waste every Vermonter is responsible for producing. The state of Maine has successfully embarked on this model, owning the landfills while contracting management and operations to a solid waste corporation. Other states have created solutions that take decision-making out of the hands of the corporations in order to protect the public and environment. Vermont can, too.

One final comment on the issue of public comment in the permitting process. Public Participation is key to public confidence in State Regulatory Agencies, that they are representing the interests and welfare of the citizens of Vermont. The public was promised a voice in the decisions affecting their very lives. There is no confidence that our comments on December 12, 2023 or the written comments submitted by December 20, 2023 will have any impact at all on the decision of the Agency of Natural Resources in approving this Amendment. The representatives at the public hearing were required by Agency protocol to “just listen” to comments made by over 30 people present, and 55 people online. They were unable to answer questions or provide additional information. This is a pretense of public participation.

Only when there is the ability for back and forth to have questions answered, and representatives from all parts of the Agency that are involved with this project (and

there are many) will there be true public participation. The piecemeal process by which permits and certifications are issued for the pre-treatment of leachate at the huge garbage dump in the Northeast Kingdom, is counter-productive to inspiring confidence in the decisions made. We are being presented with a "done deal". For all of the Agency's assurances that the public will have an opportunity to be informed about the pre-treatment system and have the opportunity to comment, it is already in operation – without a permit, and without any notice to the public, or any opportunity for comment before the pre-treatment of NEWSVT's choosing began operating without a permit.

The Agency has refused to address the violation of NEWSVT in operating a questionable pre-treatment system without a permit. The response was "NEWSVT was not precluded from treating leachate". That is as absurd as it sounds. The Agency appears to just ignore the impact on the citizens who live with this huge monstrosity with all of its attendant issues – polluting our waters, smell, toxic chemicals and dangers to the public health, and environmental injustice.

Sound, long-term, responsible decision-making cannot be accomplished in the absence of a full understanding of how this infrastructure investment at this distant landfill, funded by significant public dollars, is fully logical, efficient and appropriate to Vermont's solid waste build-out plan for the next decade and beyond? More simply stated how does this project fit into the full build out of the plan? Meanwhile, infrastructure continues to be built, bolstering a future argument for vested interest when the next phase, permanent leachate treatment onsite, is proposed.

We asked on December 12, 2023, and restate our request here, that once all of the comments are consolidated and paraphrased, and the Agency has responses, Agency representatives from all sectors related to this project would hold another public meeting to present the comments and the Agency's response to those comments in person. Attendees should be able to review the Agency's response and ask further questions. Only in this way is there real transparency and engagement with the citizens of Vermont. Only then will there be the opportunity for the citizens of Vermont to have confidence that the Agency is truly considering our comments and questions and showing respect for a true public participation process.

**From:** F B <franc.belanger@gmail.com>
**Sent:** Wednesday, December 20, 2023 11:20 AM
**To:** Polaczyk, Amy
**Subject:** Comments on permit n° 3-1406.2304 NEWSVT Casella
**Attachments:** 2023-12-20 FB Memorandum NEWSVT Amendment permit no 3-1406.pdf



Hello Ms Polaczyk,

Please find attached my comments and requests regarding the project cited in the subject.

Thank you for acknowledging receipt of this email.

Have a good day,

François Bélanger

Resident of the City of Sherbrooke
and consumer of the city's drinking water from Lake Memphremagog

# Memorandum concerning NEWSVT request for major amendment to pretreatment discharge permit no 3-1406; December 20th, 2023

Presented to: **Vermont Agency of Natural Resources,** Department of Environmental Conservation, Watershed Management Division

Presented by: **François Bélanger**, resident of the city of Sherbrooke, Québec, Canada

As a resident of the city of Sherbrooke and living on the shores of Lake Magog, I am doubly sensitive to maintaining high water quality in Lake Memphremagog.

Most of the water flowing into Lake Magog comes from Lake Memphremagog, the basin of which is mainly in Vermont. In addition, the drinking water that we consume at home comes from the aqueduct network of the city of Sherbrooke whose water intake is in Lake Memphremagog.

In 2004, I was involved professionally as a consulting engineer in a study commissioned by the city of Sherbrooke and the MRC Memphremagog on the impact on drinking water intakes of the NEWSVT Casella solid waste landfill in Coventry. This was at the time of the Phase IV expansion. Since a new phase the VI with a significant increase in reception capacity and period was approved in 2019.

In 2007, I volunteered my services to Memphremagog Conservation inc. (MCI) to guide them on the phosphorus issue, which led me to work together with representatives from Vermont, Messrs. Neil Kamman and Ben Coppans.

Since then, a new family of contaminants has appeared on the radar in Vermont and elsewhere, PFAS, of which no mention was made during our 2004 study. Recently, US regulatory authorities have lowered the health advisories on certain of the most toxic PFAS. The 2021 Vermont study demonstrated contamination of several species of fish with very high levels of PFOS, one of the most toxic PFAS.

In addition, leachate discharges at Newport WWTF and other municipal wastewater treatment plants have been found to do little or nothing to remove PFAS. Had it not been for the moratorium obtained by the MRC Memphremagog in 2004 for a period of 5 years, and the more recent moratorium obtained by DUMP and the MCI at the end of 2019 and still in effect, larger quantities of PFAS and other contaminants would have been released in Lake Memphremagog at the effluent of Newport WWTF.

For decades and even centuries, residents and users of the Lake Memphremagog basin will have a sword of Damocles hanging over their heads, the risk represented by the Coventry landfill site, the only site authorized in Vermont currently. How will the 30-year post-closure period and beyond be handled to prevent liquid contaminants from the site from flowing into Lake Memphremagog?

This burden is already enormous, and we must not add the burden of a PFAS pretreatment plant and the return of leachate to Newport WWTF or elsewhere in the Lake Memphremagog basin.

On behalf of the new Vermont law passed in 2022, we ask that the burden be shared equitably.

No. 154. An act relating to environmental justice in Vermont (S148).

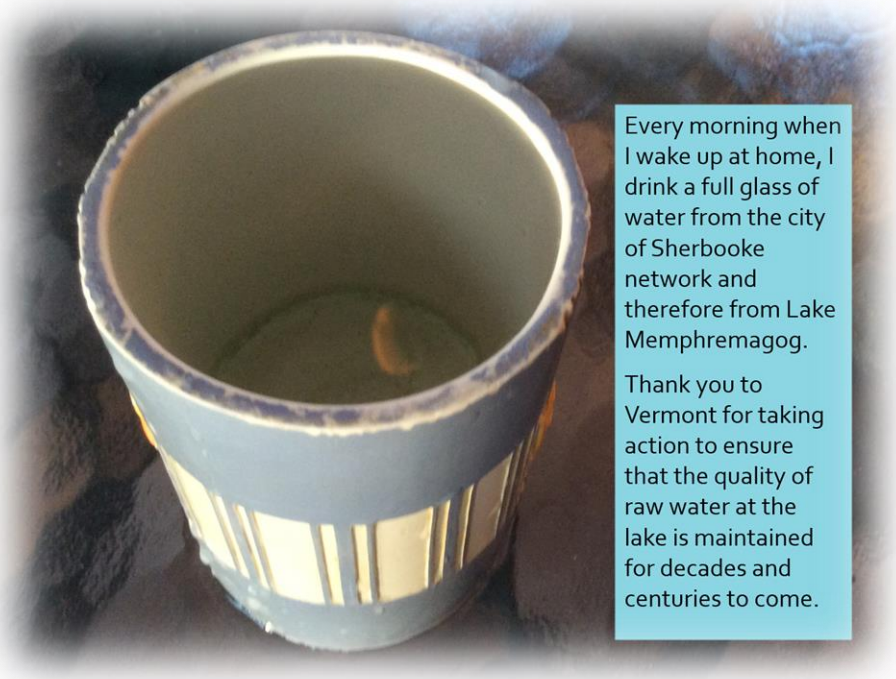
Here is an extract on the environmental burden that must be equitably distributed:

> (3) **"Environmental justice"** means all individuals are afforded equitable access to and distribution of environmental benefits; **equitable distribution of environmental burdens**; and fair and equitable treatment and meaningful participation in decision-making processes, including the development, implementation, and enforcement of environmental laws, regulations, and policies.

**I ask that the State of Vermont forever ban the possibility of Newport WWTF or any other location in the Lake Memphremagog basin receiving NEWSVT leachate from Coventry or elsewhere.**

I thank the State of Vermont for providing me with the opportunity to speak personally on this important environmental quality topic.

**François Bélanger**



**From:** Ariane Orjikh <ariane.orjikh@memphremagog.org>
**Sent:** Wednesday, December 20, 2023 12:21 PM
**To:** Polaczyk, Amy
**Cc:** Johanne Lavoie; franc.belanger@gmail.com
**Subject:** Memorandum presented by MCI - Permit n° 3-1406.2304



Dear Mrs. Polaczyk,

below, a memorandum presented by Memphremagog Conservation (MCI) about the DRAFT AMENDED PRETREATMENT DISCHARGE PERMIT 3-1406 and appendices.

Memorandum: Coventry's American landfill: a legacy to future generations at Lake Memphremagog?

Appendix A – Memorandum concerning the Draft Pretreatment Discharge Permit No 3-1406 - November 24th, 2021
Appendix B1 – Summary - Lake Memphremagog Leachate Overdose and Environmental Justice
Appendix B2 – Slideshow - Lake Memphremagog Leachate Overdose and Environmental Justice
Appendix C1 – Summary - Lake Memphremagog Fish Contamination and Environmental Justice
Appendix C2 – Slideshow - Lake Memphremagog Fish Contamination and Environmental Justice
Appendix D1 – Summary - Capacity of Lake Champlain to better accept leachate from the Coventry site than Lake Memphremagog
Appendix D2 - Slideshow - Capacity of Lake Champlain to better accept leachate from the Coventry site than Lake Memphremagog
Appendix E - Technical comments on PFAS treatment and pretreatment at Coventry and leachate disposal
Appendix F - Motion de l'Assemblée nationale du Québec (In French only)

Please confirm the reception of this communication,

Best regards,

***Ariane Orjikh,***
**Directrice générale**
**Maîtrise en biologie avec cheminement en écologie internationale**
**ariane.orjikh@memphremagog.org**
**819-574-2880**

Memphrémagog Conservation inc
**51 rue Cabana, Magog (Qc), J1X 2C4**
**www.memphremagog.org**

**From:** Henry Coe <henrycoevt@gmail.com>
**Sent:** Wednesday, December 20, 2023 12:30 PM
**To:** Polaczyk, Amy
**Cc:** Henry Coe
**Subject:** Fwd: 2 minute testimony, 12/12



From: **Henry Coe** <henrycoevt@gmail.com>
Date: Wed, Dec 20, 2023 at 12:30 PM.
Subject: Public Comment on Draft Pretreatment Discharge Permit, NEWSVT, Permit # 3-1406.

To Whom It May Concern:

My name is Henry Coe of Danville, Vermont. I make this comment as a Vermont citizen.

Many in this hearing room, and on-line have worked for years, as volunteers, to protect this jewel of an international lake from what we see as its greatest danger: the private Coventry landfill. Improperly sited adjacent to extensive wetlands, the Black River, and impaired South Bay, owned by a corporation whose first obligation is profit for its stockholders, rather than protection of the environment, Casella's contracted trucks are hosts to the greatest amount and most dangerous kind of invasive species, PFAS. Think about it, hundreds of thousands of tons per year of toxic wastes - 93% imported to us from away - by diesel trucks from the rest of Vermont and from out of state. This is a form of colonialism, pure and simple. We have a private corporation, uninvited by local citizens, but with the backing of State government, exploiting a remote, fragile location out of sight, out of mind to those who generate the waste, and profiting at the risk of the environment and public health of citizens on both sides of this international border.

Question: Does the review panel consider the site of the landfill to be appropriately sited from an environmental health and public health point of view?
Do you confirm or contradict the fact that Casella's contracted trucks are hosts to the greatest amount and most dangerous kind of invasive species?
Have you taken into account environmental justice considerations, as required by law, in your review evaluation? Do you deny that the three counties of the NEK contribute just 7% of the annual waste to the Coventry landfill, whereas the rest of Vermont contributes 73%, and 20% from out of state?
We have never read any acknowledgment by DEC, in over five years, that Lake Memphremagog is a drinking water reservoir for thousands of Quebec neighbors. The applications of Casella have never acknowledged that basic fact. Is DEC blind to that fact? Do you deny it is a drinking water reservoir and that we have an obligation to protect it from the consequences of a Vermont landfill within five miles of the international border?

I am supportive that pretreatment of landfill leachate is necessary. But, it should not be done privately, it should not be done on site at the landfill at this fragile ecological location, it should be done in an upgraded public facility such as the robust waste water treatment plant at Montpelier, located closer to those who generate the waste. Have you conducted comparative cost benefit analysis of these two radically different alternatives? C-B analysis is foundational to public investment economic decisions. When $1,000,000 of public ARPA monies are involved, this cost-benefit analysis should have been done and it should be made available to the public. It is not too late.

We are here tonight because the corporate owner dies not know what to do with its complex and toxic landfill leachate, whose forever chemicals persist and bio-accumulate in our environment and in the creatures who live here. Without public disclosure, and in advance of a permit in hand to do so, the landfill owner purchases an off-the-shelf, unproven proprietary product,, hoping it will filter out toxic PFAS from complex leachate. The State, nor Casella, has the expertise to know how well foam fractionation works on leachate, including short chain PFAS. State its benefits and its deficiencies. This application and Fact Finding do not. Regarding the choice of foam fractionation pretreatment technology for landfill leachate, It should be done as part of a sophisticated treatment train, with equal attention to the permanent encapsulation of highly contaminated residuals in a vault, not in temporary porous cement enclosures and put back into the landfill. That behavior itself, the

dumping of hazardous waste into the landfill, is itself against the law. Please comment/respond to the points made.

Long ago the Vermont WMD promised transparency in this review process by the State. Yet the project is up and running in advance of any notice to, or review by the public, And in advance of any legal permit to do so. In our view this is breaking the law. A State panelist went to great lengths to defend that it is not breaking the law. As polite as each of you panelists were to the audience, it became clear, as in other reviews by state regulators of Casella permit applications, that your WMD Department and DEC personnel have been captured by the waste industry which you are paid to oversee. To state publicly as you have done, that an activity not precluded by an existing permit, is -by inference - thereby allowed, is preposterous. You have made a farce of your own permitting system. Do you deny that what NEWSVT has done, by placing into service, its version of a Pilot Project for removal of PFAS in landfill leachate, in advance of a public hearing process, and permit given, is breaking the law? In your responsiveness summary, please address how this is not breaking the law. If you should reason that this is breaking the law, will DEC bring its Enforcement Division to cease the activity and apply required penalties?

Our country has a long and proud history of publicly operated water supply and publicly operated waste water treatment facilities, either at the municipal, county, or state level of government. We traditionally referred to them as POTW's or Publicly Owned Treatment Works or WWTF's Waste Water Treatment Facilities I am old enough to remember that history. As public schools are foundational to the education of our population, so too are essential public works like water supply, and waste water treatment, foundational to our public health. They are the cornerstones to our nation's high standard of public health. In an age of privatization and deregulation, we are prone to forget that history, We forget at our peril.

The right to clean drinking water and to clean wastewater, publicly owned and operated, and objectively monitored for the benefit of society's public health, is an essential human right. It is too important a societal responsibility to be abrogated to the very private corporation profiting from the hauling and storage of such toxic waste. Yet this Pilot Project does just that - owned and operated by the Casella Corporation, whose expertise is digging large holes in the ground. Where is the objective third party standard setting and monitoring for the protection of public health? Where are the trained chemists and sanitary engineers who are traditionally employed at modern publicly owned waste water treatment facilities? &sbsp; Please respond to these questions. It is called public health for a reason.

This landfill, legally, l has a little less than five years remaining on its permit. At that point it will close. The time is short for ANR with the Legislature, to develop an equitable solid waste policy, with smaller solid waste depositories in regions of the state closer to populations which generate the waste. It is insanity to approve public investments with tax supported ARPA funds, for such a limited time horizon, to perpetuate an outmoded transportation-centric model injurious to our atmosphere by adding millions of tons of fossil fuel emissions. Do you, as policy makers, disagree with the precept that people should be responsible for their own waste, closer to home. Have you polled local people in the Northeast Kingdom? The people will overwhelmingly say NO, more importation of the garbage of others into a beautiful environment. They will say no more leachate treatment, EVER, in the Memphremagog watershed. Democracy is based on the consent of the governed. Listen to the people. Accuse us not of NIMBYISM. The rest of Vermont, more populous, more affluent, has OUT- NIMBIED the Northeast Kingdom for over 30 years. Has this resulted in environmental justice? We want your answer/response as reviewers to this application. As well, please include a statement of how, cost-benefit wise, the transport-centric model (upon which this application is a product) is more beneficial to the State.

And it doesn't stop at state or national borders. 175,000 Canadians depend upon international Lake Memphremagog for their drinking water. Instead, we in Vermont, sanctified by State permits, have allowed a private corporation to set up a statewide Vermont outhouse next to a neighbor's drinking water well. Make no mistake. These toxic exceedances flow northerly with the water shed. Our analysis of the quarterly waste and sampling reports filed by Casella's own consultants, demonstrates the landfill is leaking toxics exceeding state standards, into the ground and surface water. Our analysis of Casella's own consultants' maps demonstrate the landfill owner has not repaired tears and openings in the cap cover from one year to the other. The EPA itself has stated that all landfill liners eventually leak. Under new EPA regulations preventing siting of landfills adjacent to fragile and valuable wetlands, the Coventry landfill would never be allowed to be permitted today. Have your WMD analysts reviewed these same quarterly reports, demonstrating exceedances from leaks in the landfill, and analyzed maps from year to year, showing breaches and brown breakouts of leachate? Please address this in your responses.

To allow pollution of a neighboring country's drinking water not only bridges on criminal behavior; it is outlawed in international waste agreements such as the Basil Convention, the Geneva Convention of War, and the U.S. - Canadian Boundary Waters Treaty of 1909. . It is morally wrong, knowingly or unknowingly, to allow leaking toxics from a private landfill in one

country, even in a time of war, to flow and migrate to another country without prior informing them and receiving their prior consent. The private corporation, Casella, and Vermont's Department of Watershed Conservation, which has approved this permit draft, to our knowledge, have never made these respectful formal efforts to inform our neighboring country of the dangers of such toxic leachate pollution, specifically PFAS. Have you so informed Quebec? Has Casella respectfully informed Quebec? Have you received their consent? In our review of permit applications of NEWSVT, and DEC fact sheets on these projects by the State, we find that both entities, neither Casella nor the State, have ever even acknowledged that this northerly flowing international lake is a drinking water reservoir for 175,000 Canadians. Both have ignored the basic big picture. Both have ignored the Precautionary Principle, a basic foundation of environmental conservation.

Thank you for this opportunity to comment. We look forward to responses to the specific questions asked.

**From:** Susan Andrus <seandrus@gmail.com>
**Sent:** Wednesday, December 20, 2023 1:44 PM
**To:** ANR - WSMD Wastewater
**Cc:** Joe Keene
**Subject:** COMMENTS REGARDING WASTEWATER TREATMENT PERMIT NO. 3-1406.2304
**Attachments:** Comments of Susan Andrus and Joseph Keene Regarding.docx



Hello -

Attached please find our comments regarding the permit for a pilot leachate treatment program at the Casella Landfill in Coventry, Vermont.

Sincerely,

SUSAN ANDRUS and JOSEPH KEENE

**Comments of Susan Andrus and Joseph Keene Regarding**
**Wastewater Permit No. 3-1406.2304 (Leachate Treatment at Casella Landfill, Coventry, VT**

We are members of the Bell Island LLC, which owns Bell Island on Lake Memphremagog as well as two properties on Eagle Point outside of Newport. Bell Island has been owned and occupied as a seasonal camp by the Andrus family continuously since the 1930s. In addition, we own a lakefront cottage at 51 Point Drive on Eagle Point.

We have numerous concerns with the permitting process for the landfill leachate treatment and disposal permit cited above, as well as with the processing and disposal plan for PFAS outlined in the permittee's Leachate Treatment Study Plan.

DUMP and other allied organizations and individuals have submitted public testimony and written comments detailing the procedural defects and opaque history of the permit itself, as well as the underlying unfair environmental burden the Coventry Landfill already imposes on the local environment and watershed, and we endorse those comments and testimonies.

Beyond this, we are alarmed by the apparent lack of scientific rigor and evidentiary basis for many of the claims (many of which are unsubstantiated assertions of "fact") in the Study Plan.

In particular, there is a glaring lack of evidence that foam fractionation is a viable and effective methodology for the removal of the full range of PFAS compounds, especially the shorter-chain compounds, which have been demonstrated to cause environmental harm.

Furthermore, the proposal to dispose concentrated PFAS back into the Coventry Landfill is irresponsible and will magnify the impact of PFAS on the Memphremagog watershed. There is no evidence that the so-called "immobilization" of PFAS concentrate in cement will eliminate the future leaching of these compounds through the cement and back into the landfill leachate stream. Indeed, we have found no claim in the literature that this "immobilization" strategy is 100% effective, and we have found studies that detail the opposite, with leaching rates of up to 20% of PFAS compounds and possibly higher rates for shorter-chain PFAS compounds.

**Given this and given the further undisputed fact that some amount of landfill leachate (and thus, some amount of PFAS) is already bypassing the landfill's liner system, the proposed plan to re-introduce concentrated PFAS captured during the "pre-treatment" phase back *into* the landfill will inevitably increase the levels of PFAS entering the Memphremagog watershed, rather than reducing it.**

**This is an intolerable dereliction of the DEC's duty to protect the watershed and the lake.**

We fully understand that PFAS management is a relatively new waste treatment challenge and that both the science and the technology available to detect and destroy PFAS in the environment is still evolving. But given the magnitude of the threat that these compounds pose to human and environmental health, we believe that the appropriate standard for addressing the threat it to apply the best known and best available technology to the problem.

This strategy points to the use of reverse osmosis filtration of leachate to remove a higher percentage of both long and short-chain PFAS compounds, followed by the **destruction** (not ineffective "immobilization") of those compounds at an appropriate facility that is not located

in an area with sensitive habitat, recreational waters, and an international lake used as a drinking water source.

We urge the DEC to live up to its legal and moral mandate to protect the Memphremagog watershed and the citizens who rely on its waters by demanding more from NEWSVT and its parent, Casella. We urge the DEC to look beyond the permittee's attempt to improve the "quality" of the leachate it delivers to Montpelier's wastewater treatment facility but adopting a "quick and dirty" strategy that can only worsen the quality of effluent from its landfill into the Memphremagog watershed.

Sincerely,

Susan Andrus
seandrus@gmail.com
Joseph Keene
keene.joseph@gmail.com
Winter residence: 13 Oak Forest Rd, Novato CA 94949

**From:** Gretchen Henry Connelly <gretchenhenryconnelly@gmail.com>
**Sent:** Wednesday, December 20, 2023 2:29 PM
**To:** ANR - WSMD Wastewater
**Subject:** Comments regarding wastewater permit no. 3-14062304



Dear Sir/Madam:

I am a co-owner, with my extended family, of Bell Island on Lake Memphremagog, which has been in my family since the 1920's. I have spent my summers there enjoying the extraordinary natural beauty of the lake for 66 years, and now gather there with my children and their children every summer. We care deeply about the lake's continued environmental wellbeing. In recent years we have noticed a decided downturn in the quality of the lake water, in which we swim, boat, fish and which we use for dishwashing and bathing. This past year there were multiple sightings of toxic blue green cyanobacteria algae flows in our swimming coves and bacteria levels that when tested proved to be significantly above designated safety levels - all of which was very concerning.

While there are no doubt multiple sources and causes of this alarming decline, including the vulnerability of local septic systems and agricultural fields to the heavy rains and rising temperatures that are the new normal in the Northeast Kingdom, the poor judgement, egregious lack of forethought and appropriate governmental oversight that have been the story of the Casella landfill's overwhelming contribution to the problem are truly both heartbreaking and morally unacceptable. Beyond the Casella dump's impact re: the degradation of Lake Memphremagog's water quality for recreational purposes and hence, in time, on local real estate values and the related negative impact on local businesses, the Vermont government has serious moral and long standing legal responsibilities to the 175,000 Canadians and US citizens. who use Lake Memphremagog as a drinking water source.

If government appointees are not moved by the facts of their failure to act proactively to protect the health of the Canadian and American citizens for whom the lake's waters are their source of drinking water, nor the already documented damage to the health of local wildlife, then surely they will be motivated by the threat of legal and monetary punitive assessments that will accrue to the pertinent officials and the Vermont State government from their inaction in preventing the flow of PFAS, both short and long chain, from the Casella dump directly into the Memphremagog watershed and on into the lake. As our friend and neighbor on the lake, Judge Curtis Von Kann, has stated: " If it is true, as some allege, that the State of Vermont has allowed Casella to begin the pilot program without final approval of the necessary permits, that reckless conduct will certainly lead to liability for the Vermont authorities that allowed it to happen." And further, that: "If the pilot program proves a failure, Vermont may well have violated international law by consciously taking high-risk actions that could send life-threatening chemicals across the border into Canada's drinking water. One can only imagine the millions, perhaps billions of dollars Vermont would be ordered to pay if class action lawsuits found that it acted with gross negligence in conducting such an experiment" at the Coventry site when clear alternative sites are available outside the Memphremagog watershed's limits, such as the advanced wastewater treatment facility in the Montpelier area.

It is documented that fully 93% of the leachate producing waste that is dumped into the Casella site in Coventry comes from outside the Northeast Kingdom. The injustice of the Northeast Kingdom bearing the environmental cost for the rest of Vermont, as well as some out-of-state sources is profound, as is the foolishness of allowing a private company to operate such a consequential and dangerous business with so very little timely and forceful supervision and oversight from the State of Vermont. What has gone on to date is shameful, and the experimental procedures of the pilot program that this permit will authorize absolutely should not be allowed to begin, or to continue if that is indeed the case, at such an environmentally vulnerable site. Wiser heads must prevail, the existing damage must be remedied and all future damage must be prevented by instating far more prudent and equitable policies.

Sincerely,
Gretchen Henry-Connelly
11348 Waterford Street
Los Angeles, CA 90049
310-480-5529

**From:** Dave and Lindy Sargent <davelindysarg@gmail.com>
**Sent:** Wednesday, December 20, 2023 3:40 PM
**To:** ANR - WSMD Wastewater
**Subject:** Public Comment re: Permit Amendment #3-1406.2304



Dear Secretary Moore and other ANR/DEC officials:

I am voicing my concerns about this Permit # 3-1406.2304 which I find poorly researched and thus very disturbing, with negative impacts for all of Vermont.

My arguments:

1) ANR/DEC allowed NEWSVT, a privately-owned for- profit business, to make the decisions regarding which leachate treatment options to pursue - and they did - obviously in mind of their profit-minded priorities. Why did you neglect your responsibility here??? You are the Vermont agency entrusted with making good, science-based decisions, yet:

2) ANR had earlier ordered a 3rd party, the CEC, to recommend a treatment plan, which they did. However, this recommendation was not followed, so, are you not in support of science-based evidence? You instead followed NEWSVT's lead – why?? Your decision does not make sense to me or to the general public who are aware of this decision. Can you please explain why you did not listen to CEC's recommendation?

3) A critically concerning piece of the NEWSVT choice, put forth in your permit is the approval to return the PFAS-intensive residues in a concrete block (!) to the landfill!! That only magnifies the problem, enabling potential further leakage into the groundwater (don't reply that the landfill liners don't leak – All landfill liners leak!)

4) This whole treatment project is a guinea pig project - first in the

nation, perhaps? Why doesn't Vermont wait and watch other states' experiments first? Wouldn't it make sense, when so much is at stake, to wait until the best technology is proven?

5) And let us not forget the impact on our Quebec neighbors to the north of us – they are relying on Vermont to make moral decisions regarding their public health and clean drinking water.

6) And these are my larger picture questions and serious concerns:

a) Has ANR/DEC thought what might happen IF the leachate treatment facility is legally permitted, remembering that NEWSVT does call it a "Revenue Generating Project?"

b) Has ANR/DEC considered what might happen if every leachate-producing enterprise in the Northeast begins to truck their leachate through ALL of Vermont (and definitely ALL of the "environmental sacrifice zone," the Northeast Kingdom). What does that mean for our roads, our traffic, and most concerningly our Vermont carbon emissions. We've seen climate change storms this summer and winter, so we know in Vermont what we're looking at. Forget Vermont's green reputation.

c) And what about the potential for truck accidents and hazardous leakages. They've already happened, and recently, in Coventry. Magnify the issues we already have with garbage being trucked all across the state, and 25% coming from out-of-state to Coventry, thanks to the Interstate Commerce Clause, and NEWSVT's interest in profitizing waste.

7) There also has been absolutely no conversation between ANR/DEC, Governor Scott, the Legislature, and the public at large around this potentially Vermont-altering project as well as our solutions (or lack thereof) to solid waste management. Before this permit is approved, PLEASE consider, for a change, listening to our comments and opening

up the recordings of these "public" meetings to the public at large. Casella can use all the greenwashing they do, but it's time for the curtain to be lifted, and for the serious and intelligent questions we have asked to be shared with Vermonters and addressed with detail. Publicly.

Please listen, and please respond with action. Thank you,

Lindy Sargent
Barton, VT

**From:** DUMP LLC <protect@nolakedump.com>
**Sent:** Wednesday, December 20, 2023 3:46 PM
**To:** Polaczyk, Amy
**Subject:** Permit Amendment 3-1406.2304 Comment by DUMP
**Attachments:** 3-1406 Comments by DUMP 2023.12.20.pdf



Ms. Polaczyk,
Please receive the attached comment by DUMP for the permit amendment 3-1406.2304.

Thank you.

DUMP LLC
www.NoLakeDUMP.com
***Protect Lake Memphremagog***

**DUMP, LLC**
**"Don't Undermine Memphremagog's Purity"**
**PO Box 1402**
**Newport, Vermont 05855**

**Vermont Agency of Natural Resources/Department of Environmental Conservation**
**Watershed Management Division**
**Draft Pretreatment Discharge Permit 3-1406 (Amended)**
**New England Waste Services of Vermont, Inc.**
**Construction and Operation of Pilot Leachate Treatment System**

**Comments by Don't Undermine Lake Memphremagog's Purity, LLC ( DUMP)**

These comments are filed by Don't Undermine Memphremagog's Purity, LLC (DUMP). DUMP was formed in 2018 and has more than 150 members, most of whom reside in the Lake Memphremagog basin. DUMP's mission is to restore and protect the water quality of the Lake Memphremagog watershed in Vermont and related international waters.

These comments provide DUMP's reaction to, and questions about, the draft amended Permit that would approve the construction and operation of a pilot leachate treatment facility designed to remove some PFAS from leachate collected at the NEWSVT, Inc. landfill facility in the Town of Coventry . After this pretreatment, the leachate will be trucked to the City of Montpelier WWTF for treatment.

**STATE POLICY AND ENVIRONMENTAL JUSTICE CONSIDERATIONS**

Attached as "Appendix A" is DUMP's comprehensive position dated August 17, 2022 regarding the treatment and disposal of leachate generated by the NEWSVT, Inc. landfill. DUMP's position is framed in the context of the State of Vermont policy on solid waste (10 VSA 6601) and relevant sections of the principles of environmental justice enacted in 2022 by the General Assembly. Environmental justice requires that if the people and ecosystems of the Lake Memphremagog basin must endure in perpetuity the threats presented by hundreds of thousands of tons of buried wastes, then the municipalities, and other entities, sending those wastes are obliged to assume equitable and fair responsibility for the treatment and disposal of the leachate. This means that the pretreatment, treatment and disposal of the leachate must not take place within the Memphremagog basin but instead must be assumed in the regions from which the solid wastes originate.

**THE FACT SHEET**

Inadequate Fact Finding -The draft Permit was accompanied by a document captioned as a "Fact Sheet". DUMP understands that the provisions of the Vermont Administrative Procedure Act (3 VSA Chapter 25) require that all agencies or departments perform an adequate assessment of facts regarding a proposed land use or development that is subject to state permitting. The agency or department must then articulate the facts upon which the final decision, or permit, is based. The facts must be clearly stated and specific to the proposed project and must include conclusions detailing compliance with applicable statutes and regulations.

DUMP contends that the "Fact Sheet" in this matter is insufficient. The document is essentially a "markup" of the "Fact Sheet" produced in 2021 for the renewal of an expired Pretreatment Discharge Permit. This "markup" consists of strike outs of language throughout the document with new language added in other portions of the document. Viewed as a whole, the "Fact Sheet" does not provide any detailed description of the proposed project's design or relevant performance standards, nor does the Fact Sheet reflect any effort to respond to the third party recommendations to improve the design and effectiveness of the system that the DEC had obtained from Civil and Environmental Consulting, Inc .(CEC) in February and June 2023. A member of the public would not be able to obtain a reasonable understanding of the proposal and the conclusions of the Watershed Management Division (WMD) in issuing the amended permit from the Fact Sheet. Thus, the amended Permit should not proceed to finality and issuance without the WMD reopening its proceeding and circulating adequate findings of fact for public review and comments.

**THE DRAFT AMENDED PRETREATMENT DISCHARGE PERMIT**

1- Deficient Project Description- Page 1 of the proposed Permit includes a paragraph describing what is being authorized by the issuance of the amended Permit. This description is deficient. It merely restates the description of the project authorized by the renewal Permit in 2022. A member of the public cannot reasonably comprehend what is being authorized by the amended Permit from a reading of the page 1 introductory description.

2- Defective Framework for Design of Permanent Pretreatment System Page 4 of the draft Permit includes references to EPA Method 1633 for purposes of sampling the effluent after pretreatment. The sampling is only for five of the known thousands of PFAS. Since the data collected from the pilot will be relied upon for the design of, and performance standards for, a permanent pretreatment system, reliance solely on EPA Method 1633 is defective on its face.

3- Insufficient Statement of Effluent Limits or Treatment Standards Page 7 of the draft Permit states that "The Secretary will use the results of the pilot study to establish a Technology Based Effluent Limit (TBEL) and/or treatment standard for PFAS in landfill leachate."

The TBEL determination process has its origins in federal regulations found in 40 CFR 125.3. The State of Vermont WMD evaluates projects based upon the provisions of the Vermont Water Pollution Control Permit Regulations (Environmental Protection Rules, Chapter 13) that were promulgated in 1974. While the rules were amended in 1991, those amendments dealt primarily with "General Permits" for stormwater runoff. The forty nine year old 1974 rules are pertinent for the reviews of treatment of discharges – but the rules are effectively silent on pretreatment systems. Thus, the federal minimal regulatory provisions found in 40 CFR 125.3 are controlling. Those provisions detail criteria regarding whether a proposed pretreatment system must represent Best Practicable Control Technology Currently Available **(**BPT), Best Conventional Pollutant Control Technology **(**BCT) or Best Available Control Technology Economically Available **(**BAT).

The WMD proposes to rely upon the results of the sampling and testing of the pilot pretreatment system's effluent. DUMP believes that this is the equivalent of setting in motion the design of a permanent pretreatment system based on a **(**BENEWSVT) standard – as in the "Best Effort deemed acceptable to NEWSVT shareholders" based upon the particular system put forward by NEWSVT Inc. in its October 2023 application revision. DUMP believes that this is an unacceptable approach taken by the WMD given the documented history of the less than transparent collaborative efforts by the DEC and NEWSVT over several years to determine an appropriate treatment system.

DUMP contends that the content of the DEC-commissioned June 8, 2023 CEC report provided seven specific recommendations regarding insufficiencies that had been identified in their review of the NEWSVT-commissioned Brown and Caldwell plan. The subsequent analysis by lead EPOC Enviro SAFF scientist David Burns states reasons why the SAFF process is insufficient in filtering all PFAS compounds, including short-chain compounds, effectively on its own but must be considered as one step in the "treatment train" in order to effectively remove and destroy PFAS. When the CEC and Burns submittals are read together, they provide ample guidance for appropriate design standards for both the pilot and permanent pretreatment systems. The WMD has turned a blind eye on the CEC and Burns analyses and recommendations; the NEWSVT October 2023 proposal is an inappropriate proposal in this context. The WMD should rely on the content of CEC and Burns and determine the TBEL now.

4- Vague Project Description Page 8 of the draft Permit provides the first (and only) articulation of the pilot project:
   a. Leachate Treatment Pilot Study Plan:
      *The Leachate Treatment Pilot Study Plan ("Pilot Study Plan") means the*

*"Leachate Treatment Study Plan for New England Waste Services (NEWSVT) Landfill," Revised October 5, 2023, as modified by the terms and conditions of this Permit.*

DUMP submits that this vague project description is inadequate for purposes of issuance of a permit and any subsequent enforcement actions by the DEC.

5- Unclear Implementation Steps Section b(ii) on page 9 of the Permit discusses a 180 day period for the operation of the pilot and collection of data. DUMP is unclear how the WMD will apply the 180 day period. Will it have commenced back in August 2023 when NEWSVT installed and began operation of the pilot without the necessary amended Permit in violation of state law? Or will the 180 day period commence on the first day that a final amended Permit is issued and takes effect?

6- Other Applicable State and Federal Regulations, Rules and Permits Section b(vii) on page 10 of the draft Permit states that the pilot study must comply with other state and federal regulations, rules and permits but the draft Permit does not specify what these regulations, rules and permits are. DUMP believes that the draft Permit should provide these details, noting that item #4 on page 14 of the draft Permit strongly suggests that the review and permitting of the Air Pollution Control Division is required. DUMP is troubled that the draft Permit would allow the continued operation of the pretreatment system after the pilot study period under the terms of section b(vii). DUMP further notes that the current SWMPD Certification for the landfill operation is valid for only 5 additional years - until 2028 – and there is no presumption to suggest that a renewal is a foregone conclusion. If it is a foregone conclusion within the regulatory divisions of the DEC that such an extension will be granted, then DUMP argues that the DEC has exceeded its authority in pre-approving a permit application yet to be submitted. Thus, the consideration of the pilot pretreatment system must be limited to a very clear understanding that landfill operations will cease in five years time. No other assumption can be made without violations of proper administrative procedures and practices by the DEC

7- A TBEL and/or Treatment Standard May Be Required for PFAS in the Discharge Item 9 on page 14 of the draft Permit states that a TBEL and /or Treatment Standard **may** (emphasis added, not in the original) be included for PFAS in the discharge by means of a "reopened" Permit. To what "discharge" does this permit condition apply? What does the WMD mean by the use of the term "reopened"? This condition is of significant concern implying discretionary decision making in the future about the determination of a TBEL and/or treatment standard – and appears to contradict the TBEL requirements on page 7 of the draft Permit.

**FRAGMENTED REGULATORY REVIEWS, INCREMENTAL DEVELOPMENT OF INFRASTRUCTURE, NEED FOR DISCLOSURE OF A MASTER PLAN AND RIGHT TO "GOOD GOVERNMENT"**

DUMP contends that the pilot pretreatment treatment facility must not be viewed as a standalone project by the WMD because it is but one aspect of a larger undertaking on the landfill tract of land. DUMP also asserts that NEWSVT in all probability intends further related pretreatment and treatment infrastructure development on the tract. The DEC has acquiesced over years to NEWSVT's piecemeal approach through its fragmented regulatory reviews. [See attached "Appendix B" "A White Paper: Lack of Transparency in Government Destroys Public Trust" (December 2021) in which communications between NEWSVT and DEC staff document the collaboration out of public view by the state and corporation to pursue the eventual construction and operation of permanent treatment facilities at the landfill.]

While not specifically binding on regulatory reviews by the WMD of the DEC, DUMP urges the WMD to consider, and give substantial weight to, the following statement of legislative findings made by the Vermont General Assembly in 1970 and stated in 10 VSA Chapter 151:

*Whereas, the unplanned, uncoordinated and uncontrolled use of the lands and environment of the state of Vermont has resulted in usages of the lands and the environment which may be destructive of the environment and which are not suitable to the demands and needs of the people of the state of Vermont…*

NEWSVT has been proceeding down a path of incremental development of leachate pretreatment and treatment systems on its tract. These facilities represent the potential to significantly impact the finite natural resources present in class 2 wetlands, the Black River and Lake Memphremagog- the drinking water supply for approximately 175,000 people. Sound, long-term, and responsible decision-making on behalf of the public interest cannot be accomplished in the absence of a full and comprehensive understanding of how this infrastructure investment at this distant landfill, funded by significant public dollars, is fully appropriate and consistent with a plan by the State of Vermont to address solid waste for the next decade and beyond.

In late March 2023, based upon media accounts and correspondence between DUMP and the Finance Director from the City of Montpelier, it became clear that a grant in the amount of $1 million in American Rescue Plan Act (ARPA) funds had been awarded in January 2023 to the City of Montpelier for the design and construction of a PFAS pretreatment system by the City's "partnering business" NEWSVT on the landfill tract in Coventry. DUMP believes that intent of the underlying federal Clean Water Act supports a conclusion that this type of municipal water pollution abatement pretreatment infrastructure should be constructed and operated at the site of the WWTF or POTW that will provide final treatment of the influent flow. DUMP believes that the record must reflect that the decision to transfer $1,000,000 in public funds from the City to the for profit corporation for the construction of a private pretreatment facility was

conducted out of the public view and without any notice to, or opportunity for input from, the residents – both in Vermont and Quebec- of the Lake Memphremagog basin.

The WMD should suspend its review of the pending amendment application and instead require the corporation to submit a comprehensive master plan revealing its long term intentions for the pretreatment and treatment of the landfill's leachate. The people of the Northeast Kingdom have a right, under Article 18 of Chapter I of the Vermont Constitution, to insist on such action by the DEC "for the good government of the state". The public interest and the common good deserve no less accountability from the executive branch of state government than for it to demand full disclosure of future corporate threats to the natural resources of the Lake Memphremagog watershed.

**"VESTED RIGHTS" CONCERNS**

In this amended Permit, the WMD will approve the initial pretreatment system for PFAS contaminated flows generated by the operation of the NEWSVT, Inc. landfill. This system will be authorized premised upon standards for the five PFAS compounds discussed in the NEWSVT, Inc. application submittals.

What assurances can the DEC provide that its approval of the particular PFAS standards relied upon in the application, and this particular pilot pretreatment system for contaminated leachate, will not then establish "vested rights" for NEWSVT, Inc. to rely upon for the pretreatment of leachate during the operating life of the landfill even though in the near future the federal Environmental Protection Agency and the DEC are likely to adopt more stringent and expanded PFAS standards that will require a more advanced pretreatment system?

Dated December 20, 2023 and submitted by the undersigned members of the DUMP Advisory Committee:

Henry Coe
Teresa Gerade
Chris Jacobs
Polly Jones
Ann Lembo
Walter Medwid
Ed Stanak
Peggy Stevens

**********

## Appendix A

## Position of Don't Undermine Lake Memphremagog's Purity, LLC (DUMP) on the Treatment and Disposal of Landfill Leachate

The siting and operation of the NEWSVT/Casella Inc. landfill in Coventry raise profound environmental and social issues affecting the ecosystems and the people of the North East Kingdom of Vermont and the province of Quebec.

Destruction of water quality is a likely eventual impact that will result from leachate generated by the burial of solid wastes from throughout Vermont and other regions of New England and the Middle Atlantic states. This leachate is laced with pollutants including PFAS and an array of other contaminants known to cause death or disease in humans along with devastating effects on aquatic biota.

Despite implementation of state of the art engineering designs and use of best available technology, landfills leak and discharge leachate into the environment. DUMP encourages the installation of leachate collection systems at the Coventry facility. *DUMP is not opposed to the collection and treatment of leachate generated by the unlined and lined cells of this landfill.*

But DUMP firmly believes that the treatment and disposal of the leachate in Coventry, or the City of Newport, - generated by wastes that are trucked into the North East Kingdom from other Vermont municipalities and elsewhere – will be an environmental injustice. This injustice to be imposed on the people of the Kingdom must be addressed through immediate action on how the leachate will be handled.

Environmental justice requires that if the people and ecosystems of the Lake Memphremagog basin must endure in perpetuity the threats presented by tens of thousands of tons of buried wastes, then the municipalities, and other entities, sending those wastes are obliged to assume equitable and fair responsibility for the treatment and disposal of the leachate. <u>This means that the treatment and disposal of the leachate must not take place within the Memphremagog basin but instead must be assumed at the sources of the solid wastes.</u>

<u>STATE POLICY</u>

DUMP contends that existing Vermont state policy mandates that the municipalities are under a binding legal requirement to address the leachate byproducts of the solid wastes generated by their residents and commercial and industrial sources. The relevant portions of 10 VSA 6601 ("Declaration of policy and purpose") read as follow:

*c) The generators of waste should pay disposal costs that reflect the real costs to society of waste management and disposal.*

*(e) It is the purpose of this chapter that the State provide technical and financial leadership to municipalities for the siting of solid waste management facilities and the implementation of a program for the management and reduction of wastes that over the long term is sustainable, environmentally sound, and economically beneficial and that encourages innovation and individual responsibility.*

*This policy statement is further buttressed by the provisions of 22 VSA 2202a(a):*

*(a) Municipalities are responsible for the management and regulation of the storage, collection, processing, and disposal of solid wastes within their jurisdiction in conformance with the State Solid Waste Management Plan authorized under 10 V.S.A. chapter 159.*

ENVIRONMENTAL JUSTICE

Environmental justice was a priority of the Vermont General Assembly during the recent 20212022 session. The legislative findings on environmental justice in Act 154 of 2022 read in part as follow:

*(17) Article VII of the Vermont Constitution establishes the government as a vehicle for the common benefit, protection, and security of Vermonters and not for the particular emolument or advantage of any single set of persons who are only a part of that community. This, coupled with Article I's guarantee of equal rights to enjoying life, liberty, and safety, and Article IV's assurance of timely justice for all, encourages political officials to identify how particular communities may be unequally burdened or receive unequal protection under the law due to race, income, or geographic location.*

*(18) Lack of a clear environmental justice policy has resulted in a piecemeal approach to understanding and addressing environmental justice in Vermont and creates a barrier to establishing clear definitions, metrics, and strategies to ensure meaningful engagement and more equitable distribution of environmental benefits and burdens.*

DUMP applauds the 2022 legislative enactment insofar as it may ensure affirmative action in future years. But the NEWSVT/Casella Inc. industrial land use in the most rural setting of the Green Mountains is a clear and present environmental injustice.

This injustice is compounded by the reality that Vermont's solid waste policy has not been reviewed or updated since the late 1980s and has resulted in an unacceptable "out of sight, out of mind" approach to solid wastes, as well as the resulting leachate. This approach has been carried out by corporate interests because government has failed to act on behalf of the public interest.

Adopted by DUMP Advisory Committee August 17,2022

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**Appendix B**

A White Paper: Lack of Transparency in Government Destroys Public Trust

Prepared by DUMP, LLC December 2021

**A White Paper: Lack of Transparency in Government Destroys Public Trust**
**Prepared by DUMP, LLC December 2021**

## Introduction

The efficacy of any governmental regulatory process relies upon public trust. That trust, in turn, depends upon transparency in decision making by state agencies and an assurance that applicable laws and regulations are being administered in good faith. Trust is further strengthened by opportunities for participation by the public – at a minimum a fair chance to provide input. This is particularly true when the regulatory process is intended to protect the air, water and habitats that we all share.

DUMP, LLC. ("Don't Undermine Memphremagog's Purity" ) is a grassroots organization of Northeast Kingdom residents from towns surrounding the landfill operated by NEWSVT Inc. in the town of Coventry. DUMP was formed in 2018 to oppose the expansion of the only operating landfill in Vermont. Due to extensive research into the science of landfills and their environmental threats, DUMP is well aware of the impacts caused by the landfill over many years on the region's ecosystems and the quality of life of local residents: 20,000 truck deliveries annually of solid waste from throughout Vermont; horrendous stench across the rural area adjacent to the landfill; most importantly, leachate laced with hundreds of toxic contaminants, including PFAS "forever chemicals", were eventually discharged into Lake Memphremagog following "treatment" in the City of Newport WWTF.

DUMP became an active participant in 2018 to the Act 250 District 7 Environmental Commission proceedings for an expansion (Phase VI) of the landfill. This required the DUMP activists to struggle up a steep "learning curve" involving the science associated with landfills, Act 250 procedures and the technical permitting processes administered by the Department of Environmental Conservation ( DEC ), Agency of Natural Resources (ANR) . While DUMP believed that the Phase VI expansion should not have been approved, DUMP members felt that a fair hearing process had been conducted by the District Commission and that some appropriate mitigating conditions were included in the land use permit. This has not been DUMP's experience with the ANR/DEC.

## Purposes of this "White Paper "

A "white paper" is an advocacy tool providing concise facts about a complex issue and presenting analysis allowing others to reach objective conclusions. It is intended to help readers understand an issue, solve a problem, or make a decision. In this case, DUMP's purposes are to show that the process undertaken by ANR/DEC, as it drafted for a Pretreatment Discharge Permit for the disposal of leachate from the NEWSVT landfill in Coventry, denied the public a fair opportunity for effective participation by the ANR/DEC. Specifically:

1. Prior to and during the public comment period for the draft Pretreatment Discharge Permit the ANR/DEC was collaborating with NEWSVT to locate the pilot project in Coventry.

2. ANR/DEC's "back room" discussions with NEWSVT ran from April 2020 to September 2021 – with no opportunity for public access.

3. ANR/DEC stated publicly that a location had not yet been determined for the pretreatment pilot project, and that it would await the submittal of the amendment application required by special condition 5 in the draft permit.

4. By issuance of Pretreatment Discharge Permit #3-1406 in final form, Condition 5 (pages 7-8 of permit) ANR/DEC actually binds NEWSVT to identify a location, determine a technology, construct and operate a pilot leachate treatment facility within one year. The location for the proposed leachate treatment facility had already been determined by NEWSVT and the ANR/DEC in advance of the publication of the draft permit.

5. The duplicity exhibited by ANR/DEC in the development of the leachate pretreatment permit, due to key background information being omitted or withheld, severely damaged public trust.

6. The pretreatment permit will eventually be used as "presumptive" evidentiary proof at Act 250 proceedings to portray the Coventry site as a forgone conclusion. It will also serve as the first incremental step toward a larger undertaking (i.e. the construction of a related private WWTF at the Coventry site). The results of this decision will increase the burden of environmental threat to the Memphremagog watershed (a drinking water reservoir for 175,000 Quebec citizens as well as Vermonters), and deny any chance for a comprehensive review/consideration of the larger undertaking. ANR/DEC will falsely portray that its permit was issued following adequate public participation when in fact critical decisions were made out of the public eye.

<u>DUMP and the Department of Environmental Conservation, Agency of Natural Resources</u>

The following chronological summary provides highlights of DUMP's participation in the State of Vermont's regulatory processes regarding the operation and expansion of the NEWSVT landfill with particular note of actions relative to the effects of the landfill leachate on the water quality of Lake Memphremagog.

- February 2019 - DUMP requested a public meeting regarding the new Proposed Groundwater protection rules and strategy.

- July 2019 - Act 250 grants a permit to expand the landfill and prohibits the disposal of landfill leachate in the Newport WWTF to protect Lake Memphremagog water quality (drinking water supply) from contamination.

- October 11, 2019 - Conceptual Leachate Treatment Scoping Study for New England, Waste Services of Vermont (NEWSVT) Landfill, required as a permit condition by ANR/DEC, and prepared by Brown and Caldwell. The study was limited to two off-site and two on-site options.

- November 1, 2019 - DUMP reached a mediation agreement with Casella/NEWSVT following DUMP's appeal of the ANR/DEC certification or the expansion of the landfill. No representative from the ANR/DEC was present during the mediation.

- April 7, 2020 – DUMP reviewed and provided comments on proposed changes to the Solid Waste Management Rules. In the responsiveness summary document issued by the ANR/DEC, it is clear that many of DUMPs suggestions were incorporated, and as a result the rules are more protective of the environment, thus adding credibility to the knowledge and persistence of DUMP in protecting Vermont's valuable water resources. The updated rules became effective on October 31, 2020.

- December 9, 2020 – DUMP members participated in ANR Secretary Julie Moore's "Tell me More" session regarding the cancerous lesions on 30% of the Brown Bullhead fish in Lake Memphremagog. In November of 2017, the Watershed Division of the Agency of Natural Resources published the *Basin 17 Lake Memphremagog, Tomifobia and Coaticook TACTICAL BASIN PLAN*. Lake Memphremagog is listed as impaired.

- April 19, 2021 – DUMP submitted a petition to Secretary Moore to designate Lake Memphremagog as a "Lake in Crisis" pursuant to the provisions of 10 VSA 1310. The petition received over 3900 signatures. DUMP followed it up with our recommendation for a Response Plan to Restore and Protect Lake Memphremagog. The first two requirements of the Lake in Crisis statute were met, as was acknowledged by Secretary Moore**.**

  The following is an excerpt from the response DUMP received from Secretary Julie Moore dated May 4, 2021:

  > When the legislature created the "lake in crisis" designation, they set a very high bar. Under 10 V.S.A. § 1310, the Agency must determine that all following factors exist prior to designating a lake:
  >
  > *(1) the lake or segments of the lake have been listed as impaired;*
  > *(2) the condition of the lake will cause:*
  > *(A) a potential harm to the public health; and*
  > *(B) a risk of damage to the environment or natural resources; and*
  > *(3) a municipality in which the lake or a portion of the lake is located has reduced the valuation of real property due to the condition of the lake.*
  >
  > Based on our review of the information available, both in terms of our own work and that submitted with the petition, the lake meets conditions (1) and (2) of 10 V.S.A. § 1310. Where we have not yet seen evidence is related to condition (3) regarding property tax valuation. If you should wish to supplement your petition with additional information, we will review and update the Agency's perspective. However, without that evidence, Lake Memphremagog does not meet the statutory test. Therefore, the Agency lacks the discretion to respond to the petition to designate Memphremagog as a "lake in crisis."

- June 24, 2021 –A broad cross section of ANR/DEC staff met with DUMP on a Zoom meeting to discuss the steps ANR/DEC was taking to restore and protect Lake Memphremagog.

- August 24, 2021 – The ANR/DEC held a stakeholders meeting, described as the "Lake Memphremagog Community meeting". Secretary Moore conducted the meeting. During this meeting it was disclosed that 1) the moratorium on disposal of leachate into Newport's WWTF had been extended until 2026- no explanation was provided; 2) ANR was looking at a plan for leachate management, and they discussed the renewal of the permit, as well as the treatment of leachate to remove PFAS.

- September 20, 2021 – ANR/DEC issues draft Pretreatment Discharge Permit to authorize discharge of landfill leachate into the City of Montpelier WWTF, including a condition to develop an experimental pilot leachate pretreatment project.. Public comments are due by November 8th.

- October 26 & 28, 2021 – Public meetings were held in Newport and Montpelier to allow for public comment on the draft of permit 3-1406, Landfill Leachate Pretreatment Discharge. At these meetings, regarding the permit condition to develop a pilot study for a leachate management facility, ANR/DEC staff assured the public that a location had not been selected yet, it could be in Coventry, or Montpelier, but they would know more when the permittee completed the plan for the pilot study, which would be due 4 months from release of the permit. (Shortly thereafter, public comment period was extended to November 24, 2021.)

- November 24, 2021 – ANR/DEC closes the extended public comment period on the draft pretreatment permit.

<u>The Draft Pretreatment Discharge Permit: Its Evolution and Terms</u>

NEWSVT was granted a pretreatment discharge permit on November 3, 2011, to take effect January 1, 2012, and to expire December 31, 2016. NEWSVT filed an application on May 23, 2016 to renew the permit. This request was not taken up by the Agency of Natural Resources, so the 2011 permit remained in effect for 10 years with no changes, even after the knowledge that chemicals of emerging concern in ground and surface waters that are harmful to humans and wildlife, became widely available.

On September 20, 2021, the Agency of Natural Resources posted a renewal draft permit to take effect December 1, 2021. This permit reduces the number of municipal WWTFs to which leachate will be delivered, leaving the Montpelier WWTF as the sole facility, and increasing the maximum daily flow of leachate into the WWTF, from 23,000 gal/day to 60,000 gal/day.

This draft permit would allow NEWSVT to deliver leachate to the Montpelier WWTF, would require additional monitoring of the leachate prior to and after treatment by the facility, and would increase the contaminants that are monitored. The draft included a condition that directs the permittee to develop a plan for a pilot study to remove PFAS chemicals from leachate, including the selection of a technology and a location to treat the leachate to remove PFAS contaminants, and other priority pollutants.

DUMP filed detailed comments with the ANR/DEC about the draft permit on November 17, 2021, and several members also filed individual comments along with many other concerned Vermonters. DUMP did so in good faith even though it already had good reason, based upon documents it had obtained

pursuant to 1 VSA Chapter 5 Subchapter 3: Access to Public Records, to conclude that the ANR/DEC had already privately collaborated with NEWSVT regarding material aspects of the pilot project. In public meetings, however, the pilot project was portrayed as a conceptual undertaking without a specific location.

Documents Obtained from the ANR/DEC

Here is a chronological summary of the essential communications within ANR/DEC and between ANR/DEC and NEWSVT that were obtained by DUMP pursuant to Vermont's public documents laws, and confirming DUMP's allegations of private collaboration and lack of transparency by the ANR/DEC :

- **February 26, 2020 - A WWTF onsite in Coventry is proposed by ANR/DEC Staff Member**: An email from the DEC Chief Pollution Control Design Engineer & Clean Watersheds Needs Survey Coordinator to the CWSRF Program Manager suggests an ***"…idea to consider passing up the chain. Consider a WWTF to directly treat the landfill leachate from Coventry…it might be more efficient than trucking and contaminating other wastewater and biosolids…Maybe they can take leachate from the other closed LFs in Vermont as additional revenue…"***

- **April 16, 2020 – Not only was ANR/DEC staff unaware of the classification of the Black River, they were willing to reclassify it to accommodate a WWTF in Coventry that discharges into it:** An email captioned "Opinion on Speculative Discharge Limits for Casella Landfill Discharge to Black River" from the Pretreatment Coordinator to several ANR/DEC staff discussing ***"…Casella's proposed alternative to discharge treated leachate directly to the Black River in Coventry…"*** as was framed in the CEC report to the ANR/DEC. The email continues on to state ***"CEC is requesting that we confirm the reasonableness of their suggest (sic) effluent limits…suggested effluent limits for the Black River…"*** After commenting incorrectly that the Black River is ***" …a Class A water…"*** the email continues ***"We never discussed this (or any of the) proposed alternatively ( sic ) with Casella directly, nor did they ever request any information about potential discharge limits, restrictions associated with this receiving water, or general feasibility. Casella's proposal is entirely speculative per the request to 'complete a conceptual scoping study of a minimum of two on-site and two off-site leachate treatment options' ".***

  An email written, approximately two hours after and in response to the email excerpted above, from the Environmental Analyst, Wastewater Program, covering Orleans County, to several ANR/DEC staff reads:
  ***"Most of their limits were fine. Some new limits should be included, but most of them shouldn't be a problem."*** The email ends by stating ***"The big question for Pete is whether it is feasible to reclassify the river to allow for this discharge. It needs to go to Class B in order to allow for the human waste to be discharged."***

  An email written, approximately two hours after and in response to the email excerpted above, from the Pretreatment Coordinator provides response comments on discharge limits and ends by stating
  ***"I'd like to provide this to CEC once we have an answer from Pete regarding water classification…"***

- **April 23, 2020 – Discharging to the Black River is now even more attractive to ANR/DEC staff:**
  An email from Pretreatment Coordinator to several ANR/DEC staff discusses and attaches
  ***"a markup from our NPDES permitting folks on the speculative discharge limits…These limits are conservative in tat [sic] they are assuming WQS will be met at the end of the pipe. However, the Black River is in fact a Class B river, and they may be eligible for some dilution depending on the constituent, in addition to a potential mixing zone."***

- **June 22, 2020- Cost appears to be a driving factor in the selection of a technology to remove PFAS from leachate.**
  An email from an Environmental Analyst, Solid Waste Management Program to the Pretreatment Coordinator discusses cost comparisons of various pretreatment methods. There appears to be a cost concern and a comparison to the current transportation costs that Casella spends to transport the leachate to Montpelier and Plattsburgh, NY. The email states
  ***"…Using the 2020 numbers for transportation and disposal, gets us closed to 12 cents per gallon (Montpelier and Plattsburgh transport and disposal costs)…"***

- **June 23, 2020 – An ANR/DEC staff member suggests that importing leachate from out of state could provide additional revenue.**
  An email from the Certification Section Manager, Solid Waste Management Program to the Pretreatment Coordinator and an Environmental Analyst, Solid Waste Management Program, asks
  ***"…if Casella treated on-site would their permit allow them to import leachate from other LF's to treat ? (possible revenue stream) "***

  An email from Pretreatment Coordinator, written approximately 30 minutes later and in response to the email excerpted above, states
  ***"The permit could accommodate it…"***

- **November 11, 2020 – ANR/DEC staff solicit requirements from the permittee regarding a leachate management facility**
  An email from the Environmental Analyst, Solid Waste Management Program to several staff members from NEWSVT about the upcoming meeting with them to discuss the leachate pretreatment options.
  ***"…We really are hoping for a conversation tomorrow and getting the dialogue started on moving this all forward. To be clear, DEC does not currently have a final decision on next steps regarding leachate treatment and we are very much interested in discussion (and listening)***
  ***Agenda/Discussion Topics***
  ***DEC: Treatment Options – Third-party review by DEC, completed by Civil Environmental Consultants***
  ***NEWSVT: Discussion of thoughts on treatment options and the work completed***
  ***What are NEWSVTs needs (from DEC) and timelines regarding leachate management?..."***

- **January 11, 2021 – High level staff from ANR/DEC meet with the president of Casella corporation regarding a WWTF onsite to process landfill leachate**

An email from the DEC Commissioner to several ANR/DEC staff discussing a meeting to be held between the DEC Commissioner, Secretary Moore, and Director of Waste Management and Prevention Division, and John Casella. The email contained two questions to be answered by staff prior to the meeting.
***"1. For our forthcoming pretreatment permit, what specific actions do we anticipate Casella or the recipient WWTFs being required to do? (i.e. increased monitoring). I'm looking for high level requirements to help them understand what they are likely to see in their new permit. 2. Named staff member (Program Manager, RESIDUALS MANAGEMENT & EMERGING CONTAMINANTS PROGRAM), please confirm what the current land application requirements are for WWTFs that process landfill leachate. …"***

- **November 15, 2021** - NEWSVT Engineer discloses at a Coventry Select Board meeting that the pilot treatment facility would be constructed and operated at the landfill in Coventry and yet the ANR/DEC did nothing to revise the draft permit to provide transparency.

<u>Conclusions</u>

Acting in good faith in the ANR/DEC permitting process, members of DUMP were led to believe that participation in that process had a purpose and that public participation could materially influence the Department's decision making. DUMP presumed a "level playing field" for both applicant and the public. The experience of DUMP over the last several months results in a conclusion that ANR/DEC's interest in public input is shallow, if not meaningless.

During the same time period as DUMP interacted with the leadership of the ANR in public forums about the degradation of Lake Memphremagog water quality, ANR/DEC staff was working to establish a framework for the locating of the pilot pretreatment facility at Coventry and its likely conversion to a permanent facility along with the probable construction and operation of a private WWTF at the same site. None of this was suggested in the ANR/DEC Fact Sheet or the draft Permit. Nor was any of this larger undertaking outlined or described at the ANR/DEC public meetings. DUMP only learned of these tentative decisions through its requests for public documents and by diligent participation at the various public forums.

The Pretreatment Permit will mandate the construction and operation of the pilot pretreatment facility as soon as the end of 2022. Since DUMP already knows that ANR/DEC favors the siting of the facility in Coventry, it is a foregone conclusion despite the ANR/DEC's assurance that the pilot will be subject to a full amendment application review, including public comments. What reasonable person would conclude that participation in such a process will have any substantial effect on the outcome?

The actions of the ANR/DEC deny the people of the Northeast Kingdom, as well as the residents of the Province of Quebec, a fair opportunity to participate in a government process intended to safeguard the public interest and ensure the integrity of finite natural resources.

# APPENDIX A – EMAIL CORRESPONDENCE

## Example 1

From: Claudon, Lynnette
To: Jeff Fehrs (Jeff.Fehrs@vermont.gov)

Subject: Coventry WWTF for Casella
Date: Wednesday, February 26, 2020 1:23:00 PM

Jeff:

Here is an idea to consider passing up the chain. Consider a WWTF to directly treat the landfill leachate from Coventry. If a microfiltration facility was built, it might be more efficient than trucking and contaminating other wastewater and biosolids. I believe that this even might be CWSRF eligible. It would reduce PFAS at the WWTFs taking leachate now. Maybe they can take leachate from the other closed LFs in Vermont as additional revenue. Then our LF leachate contaminants all end up in the same sludge.

Lynnette Whitney Claudon, P.E.
Chief Pollution Control Design Engineer &
Clean Watersheds Needs Survey Coordinator &
Engineering Planning Advance Project Lead
Clean Water State Revolving Fund Program
Department of Environmental Conservation
WATER INVESTMENT DIVISION

**Example 2 (a, b, c, and d)**

**From the ANR Certification Document, Conditions and Requirements:**

"86) On or before **October 15, 2019** the Permittee shall complete a conceptual scoping study of a minimum of two on-site and two off-site leachate treatment options and submit a report to the Secretary on this work."

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**a)** From: Giannetti, Nick Nick.Giannetti@vermont.gov
Sent: Thursday, April 16, 2020 10:28 AM
To: Merrifield, John <John.Merrifield@vermont.gov>; Polaczyk, Amy <Amy.Polaczyk@vermont.gov>

Subject: Opinion on Speculative Discharge Limits for Casella Landfill Discharge to Black River

John and Amy,

CEC is reviewing the reasonableness of Casella's proposed alternative to discharge treated leachate directly to the Black River in Coventry. They are specifically reviewing the alternative to determine if the treatment option is more or less feasible than presented by the report; assessing whether there are any additional, feasible leachate treatment options that were not presented; and evaluating the Class 5 cost estimates and their reasonableness.

To perform their assessment, CEC will utilize the speculative discharge limits developed by Casella's consultant to evaluate the proposed treatment technology (Casella has not provided the speculative limits used in their scoping study yet – we will likely follow up on this request if we do not get a response soon). CEC took a shot at developing effluent limits based on Casella's consultant's opinion, which is:

> "VTDEC will likely require that an effluent discharge to the Black River under a National Pollutant Discharge Elimination System (NPDES) permit meet SWQS at end of pipe. The Black River is a high- quality waterbody, where no dilution is allowed per Vermont regulations. However, this may be negotiable. Permit limits will likely be included for general chemistry, metals, volatile organic compounds, semi-volatile organic compounds, pesticides, PCBs, phosphorus, PFOS, PFOA and effluent toxicity. The NPDES permit application will be considered high-profile and will include multiple public meetings."

CEC is requesting that we confirm the reasonableness of their suggest effluent limits, which are included in the enclosed spreadsheet. Can one or both of you review and provide opinion on the suggested effluent limits for the Black River? For PFAS, we recommended they utilize the sum of 5 not to exceed 20 ppt. Also, the Black River is a Class A water, so there may be additional restrictions they have not called out - we can include any of these as supplemental comments.

FYI - We never discussed this (or any of the) proposed alternatively with Casella directly, nor did they ever request any information about potential discharge limits, restrictions associated with this receiving water, or general feasibility. Casella's proposal is entirely speculative per the request to "complete a conceptual scoping study of a minimum of two on-site and two off-site leachate treatment options".

Thanks,
Nick

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**b)** From: Merrifield, John John.Merrifield@vermont.gov
Sent: Thursday, April 16, 2020 12:05 PM
To: Giannetti, Nick <Nick.Giannetti@vermont.gov>; Polaczyk, Amy <Amy.Polaczyk@vermont.gov>

Subject: RE: Opinion on Speculative Discharge Limits for Casella Landfill Discharge to Black River

Nick,

Here is my review. Most of their limits were fine. Some new limits should be included, but most of them shouldn't be a problem.

Issues –
Arsenic detection levels are higher than the limit.
E Coli is not included. This is a bigger deal than the As because you may not discharge human waste to a Class A water.
More metals should be included.
Should ammonia be seasonal?
Is it assumed that the treatment process will address all priority pollutants?
What is the specific conductivity being used as a placeholder for?

Amy,

The big question for Pete is whether it is feasible to reclassify the river to allow for this discharge. It needs to go to Class B in order to allow for the human waste to be discharged.

Let me know if you have questions.

John

==========

**c)** From: Giannetti, Nick Nick.Giannetti@vermont.gov
Sent: Thursday, April 16, 2020 2:55 PM
To: Merrifield, John <John.Merrifield@vermont.gov>; Polaczyk, Amy <Amy.Polaczyk@vermont.gov>

Subject: RE: Opinion on Speculative Discharge Limits for Casella Landfill Discharge to Black River

Thanks John. Great review. Few comments based on the issues you raise:

- Not sure what specific conductance is used for. They don't discuss this in the Brown and Caldwell report, either. I think your comment is good and we can pose to CEC.
- Will E. coli be a concern given this is an industrial discharge? Perhaps because they are taking in sewage sludge…
- Is the ammonia limit you propose protective for both winter and summer? If not, then we can either specify one limit which is protective for both seasons or present the two seasonal limitations.

- Finally, I believe it is assumed that the RO + GAC + Remineralization treatment proposed will remove all priority pollutants as the reports states, “Removes virtually all contaminants”. However, I think we should leave the comment in as an assumption we’ve made.

I’d like to provide this to CEC once we have an answer from Pete regarding water classification. Is that okay with both of you?

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**d)** From: Giannetti, Nick
Sent: Thursday, April 23, 2020 11:01 AM
To: Cooper, Ivan; Kathan, Kasey
Cc: Merrifield, John; Polaczyk, Amy

Subject: RE: NEWSVT - Weekly Activity Log for Vt. DEC - Week of 4-17-2020 - Review of Leachate Treatment, NEWSVT Landfill

Attachments: Copy of Flow and Concentrations_JDM_NG.xlsx
Categories: PFOA

Hi Ivan,

Enclosed is a markup from our NPDES permitting folks on the speculative discharge limits. I’ve copied both of them here - John Merrifield and Amy Polaczyk.
These limits are conservative in that they are assuming WQS will be met at end of pipe. However, the Black River is in fact a Class B river, and they may be eligible for some dilution depending on the constituent, in addition to a potential mixing zone.

We’d like to have a phone conversation with you regarding these limits, some of the constituents presented (notably E. coli and specific conductance), and regarding potential discharge to other nearby receiving waters.

Do you have some time Monday afternoon for a discussion? We currently have availability at 1-2PM, or 3:30PM. If these times do not work with your schedule, please provide me a few dates and times, and we can find something that is compatible for everyone. I’ll send out the meeting invite and call-in number once we nail down a date/time.

Best,
Nick

**Example 3**

From: Kathan, Kasey
Sent: Monday, June 22, 2020 3:21 PM
To: Giannetti, Nick

Subject: Leachate Treatment - touch base
Attachments: Leachate Treatment Options Cost Comparison.xlsx

Hey Nick –

I started on this last week, but didn't get back to it until this afternoon, but I did get it done before tomorrows discussion!

Attached is my best take at comparing the B&C and CEC cost estimates, and putting it into something digestible. To get the cost per gallon for the B&C numbers I did use the Capital Recovery Factor from the CEC report, and applied it to the B&C mid-point capital estimates (this all annualizes the capital costs….I tried for awhile to figure out how a capital recovery factor is estimated…but…eventually just accepted that CEC probably did this correctly and used theirs). Using the 2020 numbers for transportation and disposal, gets us closed to 12 cents per gallon (Montpelier and Plattsburgh transport and disposal costs) rather than the 7 cents used in the CEC report (used the B&C numbers which used 'current' T&D which was to Newport and Montpelier). Clear as mud?

I don't know that we need to go into this detail tomorrow, but we have it. Like we discussed previously, I think for tomorrows discussion if we do a quick summary of the two reports (I can do this) and a quick walk through of the plan for you folks to move forward with NEWSVT (approach and timeline)(this ones all yours) and then open it to discussion.

The two things I want to make sure we discuss/get answers to are:
-posting the CEC report/sharing it with NEWSVT and others – how to and when
-opportunity to use remainder of the CEC contract for additional review (mostly just to make sure Peter is aware of this opportunity, but get some feedback on what might be best to get additional review on)

Thoughts?

| | | Brown and Caldwell | | | Civil and Environmental Consultants | | |
|---|---|---|---|---|---|---|---|
| | | Capital-mid | $/yr w TD | $/gal (CEC CRF applied) | Capital-Mid | $/yr w TD | $/gal |
| No Change | | | | | | | |
| | | | | | | | |
| Direct Discharge | | | | | | | |
| 3-stage RO | | | | | 15,433,000 | 921,000 | 0.1242 |
| RO + GAC | | 17,100,000 | 871,000 | 0.13 | 16,454,000 | 961,000 | 0.1313 |
| HTX | | | | | 2,690,000 | 2,640,000 | 0.1575 |
| | | | | | | | |
| Zero Liquid Discharge | | 11,900,000 | 7,074,000 | 0.44 | 13,659,000 | 7,142,000 | 0.4566 |
| | | | | | | | |
| RO Pretreatment for WWTF | | 11,300,000 | 2,021,000 | 0.16 | 8,925,000 | 835,000 | 0.1745 |
| | | | | | | | |
| HTX Pretreatment for WWTF | | | | | 2,946,000 | 2,001,000 | 0.21 |
| | | | | | | | |
| WWTF Enhancement | | | | | | | |
| Newport | | 16,800,000 | 1,865,000 | 0.18 | 6,289,000 | 954,000 | 0.1455 |
| Montpelier | | 15,700,000 | 2,759,000 | 0.23 | 5,806,000 | 1,085,000 | 0.1733 |

**Example 4 (a,b)**

**a)** From: Fekert, Dennis Dennis.Fekert@vermont.gov
Sent: Tuesday, June 23, 2020 1:29 PM
To: Kathan, Kasey Kasey.Kathan@vermont.gov
Cc: Giannetti, Nick <Nick.Giannetti@vermont.gov>

Subject: ? om on site treatment

Nice job guys,

Quick question, for Nick, if Casella treated on-site would their permit allow them to import leachate from other LF's to treat?
(possible revenue stream)

Dennis Fekert
Chief, Certification Section

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**b)** From: Giannetti, Nick
Sent: Tuesday, June 23, 2020 1:51 PM
To: Fekert, Dennis; Kathan, Kasey

Subject: RE: ? om on site treatment

The permit could accommodate it, so long as their treatment facility was capable of managing the volume and pollutants associated with the imported waste.

**Example 5**

From: Kathan, Kasey
Sent: Wednesday, November 11, 2020 9:12 AM
To: Joe Gay; Jeremy Labbe; samuel.nicolai@casella.com; Russell Anderson
Cc: Schwer, Chuck; Jamieson, Cathy; Fekert, Dennis; Bourdeau, Jeff; LaFlamme, Pete; Polaczyk, Amy; Giannetti, Nick

Subject: Discussion Tomorrow - NEWSVT and DEC

Attachments: Report - CEC Review of BC Conceptual Study 6-15-202.pdf
Categories: PFOA

Hey all –

I just wanted to reach out regarding our discussion coming up tomorrow. I am attaching the final report on the review that we had completed by Civil and Environmental Consultants to go over the Brown and Caldwell report, as we'll (DEC) will walk through that work to kick things off. We really are hoping for a conversation tomorrow and getting the dialogue started on moving this all forward. To be clear, DEC does not currently have a final decision on next steps regarding leachate treatment and we are very much interested in discussion (and listening).

Agenda/Discussion Topics

DEC: Treatment Options – Third-party review by DEC, completed by Civil Environmental Consultants

NEWSVT: Discussion of thoughts on treatment options and the work completed; What are NEWSVTs needs (from DEC) and timelines regarding leachate management?

Discussion on underdrain PFAS treatment and permitting and next steps

Looking forward to the discussion.

Best,
Kasey

**Example 6 (a, b)**

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**a)** From: Walke, Peter Peter.Walke@vermont.gov
Sent: Monday, January 11, 2021 10:52 AM
To: Schwer, Chuck <Chuck.Schwer@vermont.gov>; LaFlamme, Pete <Pete.LaFlamme@vermont.gov>; Polaczyk, Amy
<Amy.Polaczyk@vermont.gov>; Twohig, Eamon Eamon.Twohig@vermont.gov
Cc: Chapman, Matt <Matt.Chapman@vermont.gov>

Subject: Casella meeting Qs
Importance: High

Team,

Julie, Matt, and I are meeting with Casella tomorrow to discuss next steps re: leachate. I have two questions in advance of the meeting that I'd like clarified:

1. For our forthcoming pretreatment permit, what specific actions do we anticipate Casella or the recipient WWTFs being required to do? (i.e. increased monitoring). I'm looking for high level requirements to help them understand what they are likely to see in their new permit.

2. Eamon, please confirm what the current land application requirements are for WWTFs that process landfill leachate.

Thanks,

Peter

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**b) From:** Polaczyk, Amy Amy.Polaczyk@vermont.gov
**Sent:** Monday, January 11, 2021 4:51 PM
**To:** Walke, Peter <Peter.Walke@vermont.gov>; Schwer, Chuck <Chuck.Schwer@vermont.gov>; LaFlamme, Pete <Pete.LaFlamme@vermont.gov>; Twohig, Eamon Eamon.Twohig@vermont.gov
**Cc:** Chapman, Matt <Matt.Chapman@vermont.gov>; Giannetti, Nick <Nick.Giannetti@vermont.gov>

**Subject:** RE: Casella meeting Qs

Good evening all,

After discussing with Nick, here are our thoughts:

Right now Casella should at least anticipate the existing requirements in their current permit, including:

- Flow, BOD, and other allocations for each receiving POTW
- Quarterly monitoring of Total Metals, COD, Chloride, & TKN
- Annually monitoring of VOCs and Acid and Base/Neutral Extractable compounds

Other potential requirements that we're investigating as part of the renewal:

- Pesticides / PCBs (need to review existing data and potential for these constituents to be present)
- Monitoring consistent with leachate monitoring requirements of Solid Waste Certification
- PFAS monitoring
- Total Phosphorus monitoring for Lake Champlain POTWs
- Other toxics outside of priority pollutants:
    - Ammonia (as N)
    - α-Terpineol
    - Aniline
    - Benzoic acid
    - p-Cresol
    - Pyridine
- Leachate UV interference study at Montpelier if proposing to increase discharge
- BOD capacity study at Montpelier and/or Newport if proposing to increase discharge

Best regards,

*Amy*

**Example 7**

***Note: The CEC report referred to below includes a table rating the various solutions described in the study. The top 3 solutions in the rating showed direct discharge to surface water, which we later learned to mean direct discharge to the Black River.***

==========

From: Chapman, Matt Matt.Chapman@vermont.gov
Sent: Wednesday, July 21, 2021 1:33 PM
To: Dent, Marcella <Marcella.Dent@vermont.gov>

Subject: Help -- multiple meeting scheduling

Hi Marcella:

There are three meetings that need to get scheduled and I know I am not the person for this job. I also do not need to be at the meetings.

The Casella contact is Sam Nicolai samuel.nicolai@casella.com

Meeting 1 (next 2 weeks)

Leachate Treatment Alternatives

ANR invitees: Kasey Kathan, Amy Polaczyk, Nick Giannetti. Optional (meaning don't schedule around): Pete LaFlamme.

Meeting 2 (after #1 but next 2-3 weeks)

Pretreatment Permit

ANR invitees: Amy Polaczyk, Nick Giannetti. Optional: Kasey Kathan, Pete LaFlamme.

Meeting 3 (not pressing; 6 – 8 weeks out)

Direct Discharge

ANR Invitees: Bethany Sargent, Rick Levey, Pete LaFlamme. Optional: Kasey Kathan.

Matthew A. Chapman, Esq. | ANR General Counsel
Vermont Agency of Natural Resources
Davis 2, 1 National Life Dr | Montpelier, VT 05620-3901

**From:** Joe Gay <John.Gay@casella.com>
**Sent:** Wednesday, December 20, 2023 4:13 PM
**To:** Polaczyk, Amy
**Cc:** Lindsey Menard; Jeremy Labbe
**Subject:** NEWS Comments on Draft Permit
**Attachments:** NEWS Cover Letter on Draft Permit 31406 Comments December 23.pdf

**Follow Up Flag:** Flag for follow up
**Flag Status:** Flagged



**John Gay**
Engineer

1855 Vermont Route 100, Hyde Park, VT 05655
p. 802-651-5454 • **c.** 802-236-5973
e. john.gay@casella.com • w. casella.com

**CASELLA WASTE SYSTEMS, INC.**
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NEW ENGLAND WASTE SERVICES
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December 20, 2023

Ms. Amy L. Polaczyk, PhD
State of Vermont Agency of Natural Resources
Waste Management & Prevention Division
1 National Life Drive, Davis 1
Montpelier, VT 05602-3704

**RE: New England Waste Services, Inc.**
**Draft Pretreatment Leachate Discharge Permit**

Dear Ms. Polaczyk:

New England Waste Services, Inc. (NEWS) is in receipt of the draft Pretreatment Leachate Discharge Permit #3-1406 that was issued on November 11, 2023. NEWS has reviewed the draft permit and offers the following comments:

Page 2, Effluent Limitations and Special Conditions A.1.b.

**Please consider removing: "The Permittee shall not discharge leachate into the Montpelier WWTF when wet-weather flow has the potential to cause the WWTF to exceed a maximum influent flow rate of 3.97 million gallons per day (MGD). 3.97 MGD correlates to the Montpelier WWTF average daily design flow."**

**The leachate is discharged into a holding tank at the facility and not directly into the headworks. The pump control is set to run when influent is less than 3.97 MGD consistent with the plants operating permit. Therefore, this condition is overly restrictive and not relevant.**

Page 3, Effluent Limitations and Special Conditions A.2.

**Please consider revising: "Effluent Monitoring Requirements: The Permittee shall monitor and record the quality and quantity of landfill leachate from its NEWSVT (S/N 007) and CV (S/N 008) landfills in accordance with the following monitoring schedule:"**

**With, "Monitoring Requirements: The Permittee shall monitor and record the quality and quantity of landfill leachate from its NEWSVT (S/N 007) and CV (S/N 008) landfills if there is discharge of leachate to the Montpelier wastewater treatment facility during the reporting period in accordance with the following monitoring schedule:"**

**We request this as the word "Effluent" confuses the public and to clarify that when there is no discharge, there is no sampling required as clarified by the Department.**

Page 3, Effluent Limitations and Special Conditions A.2.

**For the regulated PFAS compounds, please revise back to "Grab" for sample type. We do not collect multiple samples in the month, rather we grab a single sample during the reporting period for leachate that is already consolidated/composited.**

**Furthermore, composite sampling seems to be counter to the wording in the Fourth Draft [EPA, July 2023] Method 1633, which says: "Because some PFAS are known surfactants, EPA strongly discourages composite sampling for Clean Water Act compliance monitoring. Therefore, samples from sources that flow freely [e.g., effluents or in-process waste streams] are collected as grab samples."**

**We recommend that all PFAS samples be grab samples [particularly samples of leachate, WWTF influent, WWTF mid-plant waste stream, WWTF effluent, and surface water samples], for the reason stated above in the Fourth Draft Method 1633. In addition, if composite sampling is required, an automated sampler would need to be thoroughly cleaned before each sampling event for PFAS analysis, which is inherently problematic due to the nature of PFAS sampling procedures. Alternatively, manual rather than automated composite sampling would be very labor-intensive and time consuming.**

**If the DEC insists on composite sampling of the landfill leachate for PFAS analysis, we respectfully would like to understand the reasoning and provide clear details regarding the duration and frequency of compositing.**

**We request that Pentachlorobenzene [PeCB] be removed from the list of parameters to be analyzed in landfill leachate samples. The lab analysis for this parameter will not be reliable because the only lab that could be identified that analyzes aqueous samples for PeCB is in Texas. Laboratory EPA Method 625.1 requires that samples be received still cooled to 4 deg. C. This low sample temperature cannot reliably be accomplished given the long distance and the likelihood of high temperatures in the spring, summer and fall seasons in the various transit vehicles from central Vermont to Texas.**

Page 4, Notes on Effluent Limitations and Special Conditions A.2, note 1.

**In the first sentence and within the bullets, please replace "flow" with "volume".**

Page 6, 4. ii, [table]

**"Sample Location" [Column 3] of this section includes sampling of the WWTF Solids. Note 3 below this table states that EPA Fourth Draft Method 1633 should be used for PFAS analysis. As indicated above, the Fourth Draft [EPA, July 2023] Method 1633 states that Method 1633 has not been finalized for solid matrices. Therefore, we recommend that the original wording be retained regarding Solids analyses for PFAS, which calls for using EPA**

**Method 537 v.1.1 until Method 1633 is adopted as being appropriate for analyzing solid matrices.**

Page 7, 4. iii, [table]

**Note #3, please consider removing the second-to-last sentence as *EPA Method 1633 has been finalized [by the Fourth Draft, dated July 2023] for aqueous samples including surface waters.***

Page 10, b. iii. 5.

**Please consider revising: "Sampling results shall be submitted to the Secretary monthly by the 15th of each month for the previous month's sampling for the duration of the Pilot Study"**

**With "To the extent possible, notwithstanding laboratory delay beyond the control of the Permitee, sampling results shall be submitted to the Secretary monthly by the 15th of each month for the previous month's sampling for the duration of the Pilot Study"**

Page 14, Final Report, i. 9.

**Please consider removing item #9, this is already stated on page 7 and is not associated with the final report.**

Should you have any questions please feel free to contact me at (802) 651-5454.

Sincerely,

**NEW ENGLAND WASTE SERVICES, INC.**

John Gay, E.I.
Permits, Compliance & Engineering

c. Jeremy Labbe, NEWSVT
Lindsey Menard, NEWSVT
DUMP

**From:** Susan Andrus <seandrus@gmail.com>
**Sent:** Wednesday, December 20, 2023 4:44 PM
**To:** ANR - WSMD Wastewater
**Cc:** Joe Keene
**Subject:** CORRECTED COMMENTS REGARDING WASTEWATER TREATMENT PERMIT NO. 3-1406.2304
**Attachments:** Comments of Susan Andrus and Joseph Keene Regarding.docx



Hello -

Attached please find our CORRECTED comments attached regarding the permit for a pilot leachate treatment program at the Casella Landfill in Coventry, Vermont.

Sincerely,

SUSAN ANDRUS and JOSEPH KEENE

**Comments of Susan Andrus and Joseph Keene Regarding**
**Wastewater Permit No. 3-1406.2304 (Leachate Treatment at Casella Landfill, Coventry, VT**

We are members of the Bell Island LLC, which owns Bell Island on Lake Memphremagog as well as two properties on Eagle Point outside of Newport. Bell Island has been owned and occupied as a seasonal camp by the Andrus family continuously since the 1930s. In addition, we own a lakefront cottage at 51 Point Drive on Eagle Point.

We have numerous concerns with the permitting process for the landfill leachate treatment and disposal permit cited above, as well as with the processing and disposal plan for PFAS outlined in the permittee's Leachate Treatment Study Plan.

DUMP and other allied organizations and individuals have submitted public testimony and written comments detailing the procedural defects and opaque history of the permit itself, as well as the underlying unfair environmental burden the Coventry Landfill already imposes on the local environment and watershed, and we endorse those comments and testimonies.

Beyond this, we are alarmed by the apparent lack of scientific rigor and evidentiary basis for many of the claims (many of which are unsubstantiated assertions of "fact") in the Study Plan.

In particular, there is a glaring lack of evidence that foam fractionation is a viable and effective methodology for the removal of the full range of PFAS compounds, especially the shorter-chain compounds, which have been demonstrated to cause environmental harm.

Furthermore, the proposal to dispose concentrated PFAS back into the Coventry Landfill is irresponsible and will magnify the impact of PFAS on the Memphremagog watershed. There is no evidence that the so-called "immobilization" of PFAS concentrate in cement will eliminate the future leaching of these compounds through the cement and back into the landfill leachate stream. Indeed, we have found no claim in the literature that this "immobilization" strategy is 100% effective, and we have found studies that detail the opposite, with leaching rates of up to 20% of PFAS compounds and possibly higher rates for shorter-chain PFAS compounds.

**Given this and given the further undisputed fact that some amount of landfill leachate (and thus, some amount of PFAS) is already bypassing the landfill's liner system, the proposed plan to re-introduce concentrated PFAS captured during the "pre-treatment" phase back *into* the landfill will inevitably increase the levels of PFAS entering the Memphremagog watershed, rather than reducing it.**

**This is an intolerable dereliction of the DEC's duty to protect the watershed and the lake.**

We fully understand that PFAS management is a relatively new waste treatment challenge and that both the science and the technology available to detect and destroy PFAS in the environment is still evolving. But given the magnitude of the threat that these compounds pose to human and environmental health, we believe that the appropriate standard for addressing the threat is to apply the best known and best available technology to the problem.

This strategy points to the use of reverse osmosis filtration of leachate to remove a higher percentage of both long and short-chain PFAS compounds, followed by the **destruction** (not ineffective "immobilization") of those compounds at an appropriate facility that is not located

in an area with sensitive habitat, recreational waters, and an international lake used as a drinking water source.

We urge the DEC to live up to its legal and moral mandate to protect the Memphremagog watershed and the citizens who rely on its waters by demanding more from NEWSVT and its parent, Casella. We urge the DEC to look beyond the permittee's attempt to improve the "quality" of the leachate it delivers to Montpelier's wastewater treatment facility by adopting a "quick and dirty" strategy that can only worsen the quality of effluent from its landfill into the Memphremagog watershed.

Sincerely,

Susan Andrus
seandrus@gmail.com
Joseph Keene
keene.joseph@gmail.com
Winter residence: 13 Oak Forest Rd, Novato CA 94949

Comments on NPDES permit 3-1406:

TO: Amy Polaczyk
CC: Senator V. Lyons; Senator P. Baruch; Rep. R. Hooper
FROM: Sylvia Knight, VT Pesticide & Poison Action Network
13 Claire Pointe Rd. Burlington, VT 05408
DATE: 18 December 2023
RE: NPDES permit 3-1406: Draft Pretreatment Discharge Permit.
New England Waste Services, Inc. Project ID No. WY06-0020

First, some observations regarding Vermont's relationship with water:

A. Our planning and regulatory processes tend to regard water as *separate* from humans. That's simply not biologically true. We are intimately connected with Earth's hydrological system. We share the water with many and with future generations.

B. State policy still treats water bodies as receptacles for our waste. That's contrary to the Clean Water Act. Witness the dozens of combined sewer overflows and other discharge events recorded each month by ANR/DEC. Consider "mixing zones" and "waste management zones." Clean water?

C. State policy has expected lakes and rivers to assimilate toxins without measurable harm to life and failed to consider effects of low concentrations and chemical mixtures. We are just slowly waking up to the danger of this policy.

I join members of Don't Undermine Memphramagog's Purity (DUMP) in opposing approval of NPDES permit 3-1406, Draft Pretreatment Discharge Permit for the following reasons.

1. NEWS-VT has constructed the pilot PFAS removal project *without approval*, in flagrant disregard for the required public review process, and should NOT be allowed to continue operation of that facility.
2. ANR/DEC must not reward NEWSV for violating VT law and the Clean Water Act in their premature construction of a pilot project.
3. They have chosen methods of PFAS removal that are inadequate, allowing toxic PFAS to continue contaminating the international watershed of Lake Memphramagog, endangering human and ecological health for years to come.
4. ANR's allowing this pilot project to continue shows crass disregard for US and Canadian citizens' concerns about serious contamination of their drinking water. This project must cease operation.
5. NEWSVT has chosen to encase the PFAS in concrete and re-introduce it into the waste stream. This cannot be a long-term solution and must cease. Permanent encapsulation and sequestration methods must be determined in a public process to consider location nearer to centers of waste generation.
6. Given the relatively short time this landfill will continue to operate, new facilities must be built closer to where the bulk of the waste is generated; that is Chittenden and Rutland Counties. Newport and Coventry generate less than 17% of the trash

brought to the NEWSVT landfill. PFAS generating businesses must find ways to eliminate these compounds from their waste streams.

7. I live downstream of Montpelier, VT at the mouth of the Winooski River. A friend of mine living adjacent to the river uses his canoe in those waters. He has offered his canoe for my use to enjoy the river, but I do not want exposure to PFAS during recreation. I do not swim in Lake Champlain. Any leachate delivered to Montpelier releases PFAS, heavy metals and priority pollutants to the Winooski River, which move downstream to Lake Champlain between Burlington and Colchester. PFAS were detected in significant amounts in the lower Winooski River in 2019.

8. Lake Champlain is an international water body, providing drinking water for approximately 145,000 of US and Canada residents. Vermont cannot continue to contaminate this water body with PFAS (thousands of them), heavy metals and priority pollutants, ignoring its responsibility for protecting international waters pursuant to the Basel Convention.

9. Montpelier received federal funds (our tax dollars) to provide much-needed upgrades their wastewater treatment facility; but they 'gave' these funds to Casella for their premature, un-permitted project. I object to this surrender of tax dollars to a corporation acting without regard for legal processes, precautionary science and the Clean Water Act.

10. ANR/DEC must not surrender its regulatory authority for protecting water resources needed for all life to a private corporation concerned with its own profit margin.

11. I support the calls from Conservation Law Foundation, VT Natural Resources Council and Zero Waste for regulatory enforcement against NEWSVT for disregarding the permit process.

12. Please *deny* draft NPDES Pretreatment Discharge permit #3-1406.

| | |
|---|---|
| **From:** | Susan Andrus |
| **To:** | ANR - WSMD Wastewater |
| **Cc:** | Joe Keene |
| **Subject:** | CORRECTED COMMENTS REGARDING WASTEWATER TREATMENT PERMIT NO. 3-1406.2304 |
| **Date:** | Wednesday, December 20, 2023 4:44:45 PM |
| **Attachments:** | Comments of Susan Andrus and Joseph Keene Regarding.docx |

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Hello -

Attached please find our CORRECTED comments attached regarding the permit for a pilot leachate treatment program at the Casella Landfill in Coventry, Vermont.

Sincerely,

SUSAN ANDRUS and JOSEPH KEENE

**From:** McKelvie, John
**To:** Polaczyk, Amy
**Subject:** FW: Website Feedback Form Submission
**Date:** Wednesday, December 13, 2023 10:19:19 AM

---

Good morning Amy,

I'm not sure if Ms. Williams is referring to last night's meeting or some upcoming meeting, but I'm passing along her comments for the record. Let me know if I can do anything further here.

Thanks,
John

VERMONT
John McKelvie (he/him) | Executive Assistant & Records Officer
Department of Environmental Conservation | Commissioner's Office
1 National Life Drive, Davis 3, Montpelier, VT 05620
802-505-3589 | john.mckelvie@vermont.gov



---

**From:** Carol.Chamberlin@vermont.gov <Carol.Chamberlin@vermont.gov>
**Sent:** Wednesday, December 13, 2023 9:47 AM
**To:** Chamberlin, Carol <Carol.Chamberlin@vermont.gov>; Lutchko, Greg <Greg.Lutchko@vermont.gov>; McKelvie, John <John.McKelvie@vermont.gov>
**Subject:** Website Feedback Form Submission



Submitted on Wed, 12/13/2023 - 09:46

Submitted by: Anonymous

Submitted values are:

**Your Name**
Mary Anna Williams

**Your Email**
maryanna.williams10@gmail.com

**Subject**
Coventry Landfill

**Message**

I am unable to attend the upcoming meeting but have grave concerns regarding Coventry Landfill leaching which continues and it appears they are not being forced to stop bad practices. This past summer's huge rain fall flowing past this dump into the lake is an example you cannot ignore. When the lease expires I want this site closed and monitored regularly as contamination will continue to pour into the lake after this company disappears. Please never again allow a dump so close to people's water source. Water is far too precious.

Memphrémagog Conservation

# Coventry's American landfill: a legacy to future generations at Lake Memphremagog?

**Memorandum concerning NEWSVT request for major amendment to pretreatment discharge permit no 3-1406**

**Presented to:**
Vermont Agency of Natural Resources,
Department of Environmental Conservation,
Watershed Management Division

**Presented by:**
Memphremagog Conservation (MCI)

December 20th, 2023

## Introduction

MCI's team is once again mobilized to emphasize the problem that the landfill site in Coventry, Vermont at the head of Lake Memphremagog, a drinking water source for 175,000 Canadians represents.

***This position paper deals with the main issue in this file, that is the final destination of the leachate, treated or not, at the expiry of the permit that is the subject of the current public consultation. This permit, which situates the pretreatment facility at the landfill site in Coventry, opens the door to the eventual return of leachate being discharged into Lake Memphremagog and facilitates the potential for further enlargement of the landfill site.***

## MCI is worried: Vermont is opening a door that may never be closed in the future.

What fate awaits this Canadian drinking water source menaced by polluted American water coming from the Coventry landfill at the end of the moratorium and the various permits currently in force?

MCI is taking this opportunity to make you aware of its legitimate concerns regarding the issuing of a pre-treatment permit for the leachate emanating from the Coventry landfill site.

This pre-treatment plant should not be sited within the Lake Memphremagog watershed. This geographical location makes it even more likely that the Coventry landfill site will be expanded in the future given the presence of a nearby pretreatment plant. What is even more worrying is that this new pretreatment plant increases the likelihood of the pre-treated leachate, still toxic, finding its way in Lake Memphremagog. It is also

likely that leachate from other landfill sites could be treated here and end up in Lake Memphremagog.

We will demonstrate, both legally and scientifically, that the Lake Memphremagog watershed should never again receive the polluted partially treated effluent generated by the Coventry or any other landfill site.

## Who is Memphremagog Conservation?

Memphremagog Conservation (MCI) is a not-for-profit organization based in Magog, Quebec, that has been working since 1967 to protect the health of the waters and watershed of Lake Memphremagog, a reservoir of drinking water for more than 175,000 Canadians. MCI has been closely following the Coventry landfill site developments for decades and has expressed on several occasions their strong opposition to the expansion of NEWSVT's solid waste disposal plant and to the disposal of landfill leachate at the Newport wastewater treatment facility (WWTF) or anywhere within the Memphremagog Watershed. We invite you to refer to **Appendix A,** where you will find our 2021 document on that matter.

## MCI's message to future generations: working upstream!

55 years ago, three visionary environmentalists had the idea of joining their efforts together to improve the quality of Lake Memphremagog's water and founded MCI. The years passed, and their preoccupation with this heritage that is Lake Memphremagog for future generations remains. Working upstream is more important than ever: our aim is to identify the issues facing the watershed and develop durable solutions.

The fact of the presence of an American landfill site at the edge Lake Memphremagog is hard to fathom, given that it is a Canadian drinking water source.

*The final destination of the leachate from the landfill site is of crucial importance: it should never end up in the Lake Memphremagog watershed. MCI is hoping that a permanent moratorium be decreed. The following legal and scientific arguments justify our position.*

## Laws to protect us.

All citizens must be protected by their own country, and that is why we, as Canadians, will try to place ourselves in the American context to find a solution.

Environmental justice: an American notion and a Vermont law

The United States were the instigators of this environmental justice, which is being accepted more and more around the world, as regards pollution unfairly burdening certain parts of the population. The 'Love Canal' affair which made headlines in the 80s is a perfect example, according to numerous sources[1].

In fact, in 2022, the state of Vermont adopted No. 154. An act relating to environmental justice in Vermont (S148). Here is an extract on the environmental burden that must be equitably distributed:

[1] Center for Health, Environment and Justice (CHEJ). *Love Canal: The Start of an Environmental Justice Movement* https://chej.org/wp-content/uploads/Love-Canal-PDF-v1.pdf

(3) **"Environmental justice"** means all individuals are afforded equitable access to and distribution of environmental benefits; **equitable distribution of environmental burdens**; and fair and equitable treatment and meaningful participation in decision-making processes, including the development, implementation, and enforcement of environmental laws, regulations, and policies.

From this perspective, we refer you to **annexes B1 and B2** to visualize the case for environmental justice (or rather injustice) that the Coventry landfill site represents for the American and Canadian population residing within the Lake Memphremagog watershed. These appendices show that we, residents of the Lake Memphremagog Basin, find ourselves with an excess of leachate which comes from waste from other basins in Vermont.

Canada-US boundary water treaty act : an avant-gardist treaty signed 115 years ago?

On January 11, 1909, some 115 years ago, our two countries signed a treaty regarding the issues related to our boundary waters. Unusually for the times article IV states: "It is further agreed that the waters herein defined as boundary waters and waters flowing across the boundary shall not be polluted on either side to the injury of health or property on the other."[2]

What about the leachate generated by the Coventry landfill site? It represents a menace for the international waters of Lake Memphremagog. This leachate, treated or not, ends up in the environment. The treated leachate, still containing pollutants, could flow again from the United States to Canada at the end of the moratorium. How is this situation in regard to the treaty?

Should the International Joint Commission (IJC) be involved?

On their web site, concerning Article IV of the Treaty, it is written: "This short but powerful statement requires that Canada and the United States ensure that neither country will pollute water that flows across their common boundary to an extent that would cause harm to health or property in the other country. This clause and subsequent direction from the two governments has served as the impetus for the International Joint Commission's work on water quality since its inception.
If the governments have questions or differences concerning water quality along the border, they may ask the IJC to study these issues and assist them with meeting their treaty commitments. To that end, the governments can ask the IJC to investigate or monitor water quality, or to alert them to any water quality concerns the IJC finds in the course of fulfilling its duties. "[3]

MCI has questioned the International Joint Commission numerous times in recent years on this subject. We have brought the Coventry landfill site up twice at Québec-Vermont meetings in 2023.

Motion at Québec's National Assembly

From a Canadian and Québec point of view, allow us to share our very clear position on this issue.

[2] International Boundary Waters Treaty Act (justice.gc.ca)
[3] Water Quality | International Joint Commission (ijc.org)

In June of 2021, the 125 members of Québec's National Assembly, representing 5 separate political parties, unanimously voted a motion insisting of the State of Vermont on a permanent ban on the outflow of treated leachate into the Lake Memphremagog watershed (annex F). This is a powerful and concrete action, as the members represent the government of Québec in its defense of the 175,000 Quebecers who drink the lake's water.

## The science can guide us.

Over and above the various laws which justify the obtention of a permanent moratorium on the final destination of the leachate ensuring that it is outside the Lake Memphremagog watershed, MCI would like to add the scientific arguments to the equation. These arguments are presented in Annexes B1 to D2.

These elements clearly show that Lake Memphremagog should never again suffer the impacts of American garbage in Coventry. As mentioned before, the appendices B1 and B2 show that residents of the Lake Memphremagog Basin find themselves with an excess of leachate which comes from waste from other basins in Vermont. Furthermore, should Lake Memphremagog see its fish even more contaminated by significant inputs of PFAS from leachate generated by waste coming from municipalities in Vermont outside our lake basin and even states such as New York, Massachusetts, New Hampshire, Rhode Island and Connecticut? Waste from these states also represents more tonnage than that from Vermont residents of the Lake Memphremagog basin. This generates foreign leachate which pollutes Lake Memphremagog if dumped in the Newport WWTF. Is this acceptable (appendices C1 and C2)? What about the precaution principle, recognized in international environmental law?

At this time, MCI knows very well that polluted water from the United States is entering Canada via Lake Champlain. As well, MCI knows that the company managing the landfill site has agreements with seven wastewater treatment plants[4]. Of the seven plants, only one is in a watershed wherein the water flows into the United States and not Canada. Currently, we realize that the only wastewater treatment plant in Vermont able to receive the leachate from the Coventry landfill site is in Montpelier, within the Lake Champlain watershed. In appendices D1 and D2, MCI presents arguments which show that the Lake Champlain watershed is a more appropriate destination for final disposition of the Coventry leachate than the Lake Memphremagog watershed.

## What about the pre-treatment technology?

MCI is not against the treatment of the leachate, in fact just the opposite. The issue that concerns us is the final destination of the leachate, treated or not.

As well, as regards the treatment technology in the permit, we question its efficacity. Our arguments are presented in Annex E.

Upon reviewing the documentation regarding the proposed treatment, the following elements should be highlighted. The company that developed the technology being used within the permit has issued the following reservations from the principal scientist, Mr. David Burns. En effect, David Burns is the lead scientist on the EPOCEnviro team, the

[4] Solid Waste Management Facility NEWSVT, Inc: Phase VI Application - Fact Sheet Date: May 31. 2018 p16

creators of the SAFF leachate treatment technology chosen by NEWSVT. In the research article *Commercial-scale remediation of per- and polyfluoroalkyl substances from a landfill leachate catchment using Surface-Active Foam Fractionation (SAFF®)*, Burns reveals that while there is promise in this technology, there are also reasons why the SAFF process is insufficient in filtering PFAS effectively on its own: David Burns writes, "Of course, there is **no suggestion that the treated landfill leachate should be** used directly as potable water or **allowed to discharge or otherwise migrate into receiving waters reserved for drinking water."**[5] In light of these revelations, how can Vermont justify the approval of this type of treatment?

As well, we have learned that NEWSVT plans to combine this highly toxic hyper concentrate with cement and return it to the landfill. Concrete is porous and both absorbs PFAS and releases them, allowing it to further concentrate in landfill leachate. This study of air base fire-fighting foam sites proves that "The maximum concentrations of PFAS in runoff water of five rainfall simulations were similar, suggesting recurring release of PFAS from AFFF impacted concrete, which could be sustained by upward transport of PFAS in the concrete subsurface layers through a potential "wicking" effect."[6]

How can Vermont justify the logic of returning the PFAS extracted from the leachate in the form of porous concrete to the same landfill from which it percolated? Vermont's environmental justice law should lead to a clear choice in this regard. Should NEWSVT be granted the authorization to use concrete to encapsulate the PFAS concentrates generated by the pretreatment, this should only be done under certain circumstances as indicated in appendix E.

## Conclusion

MCI reiterates its concerns regarding the protection of Lake Memphremagog's drinking water, which is menaced by the eventual return of leachate, treated or not, into the Lake Memphremagog watershed. By locating the pretreatment plant at the Coventry landfill site, it opens a door that we may not be able to ever close.

American laws such as environmental justice, our bilateral treaty, the Québec government's stance, the presence of cancerous fish in the lake, the inability of Lake Memphremagog to handle the leachate volumes, are all arguments that logically lead to a permanent moratorium to ensure that the leachate's final destination is outside the Lake Memphremagog watershed. The precaution principle must be applied and lead to a permanent moratorium.

**Johanne Lavoie, Volunteer President**
**Ariane Orjikh, General Manager**
**François Bélanger, B.Sc.A., M.Ing.Env., Volunteer technical consultant with MCI**

[5] https://onlinelibrary.wiley.com/doi/10.1002/rem.21720?af=R

[6] https://www.sciencedirect.com/science/article/pii/S266691102200003X#:~:text=The%20estimated%20mass%20of%20PFAS,PFAS%20in%20runoff%20water%20events.

# Appendices

- Appendix A - Memorandum concerning the Draft Pretreatment Discharge Permit No 3-1406 - November 24th, 2021

Lake Memphremagog Leachate Overdose and Environmental Justice

- Appendix B1 - Summary
- Appendix B2 - Slideshow 19p

Lake Memphremagog Fish Contamination and Environmental Justice

- Appendix C1 - Summary
- Appendix C2 - Slideshow 20p

Capacity of Lake Champlain to better accept leachate from the Coventry site than Lake Memphremagog

- Appendix D1 - Summary
- Appendix D2 - Slideshow 44p

Technical comments on PFAS treatment and pretreatment at Coventry and leachate disposal

- Appendix E

Motion de l'Assemblée nationale du Québec (In French only)

- Appendix F

Memphrémagog Conservation

# APPENDIX B1 - Summary

## Lake Memphremagog Leachate Overdose and Environmental Justice

The share of solid waste from residents of the Lake Memphremagog basin that would be buried at the Coventry site would be at most 5%.

From 1993 to 2023 over a period of 31 years, the volume of leachate generated at the Coventry site is estimated to be approximately 214,500,000 gallons. Of this volume, approximately 30%, 64,250,000 gallons, would have been sent to Newport WWTF without any prior pretreatment.

We, residents of the Lake Memphremagog Basin, therefore find ourselves with an excess of leachate which comes from waste from other basins in Vermont and even up to 20% from waste from other neighboring states. This OVERDOSE of leachate, known as garbage juice constitutes an unacceptable BURDEN which must not be added to the BURDEN of this mountain of waste which will be there for decades and centuries to come. Long-term management of this solid waste which contains many contaminants will be required well beyond the 30 years post-closure.

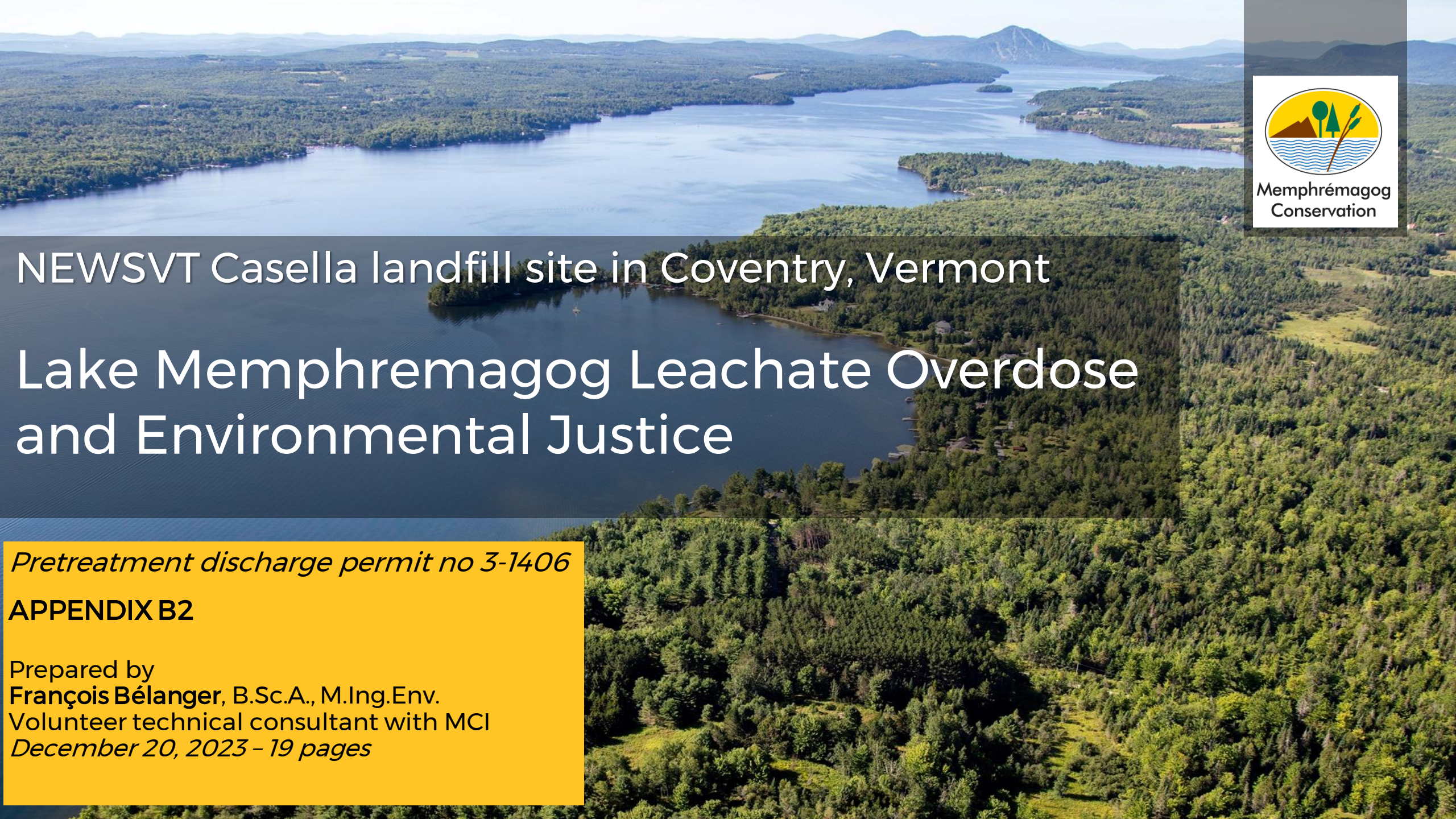
Having to manage this solid waste for such a long time, residents of the Lake Memphremagog basin must not add the BURDEN of leachate which must be borne by the other producers of their waste buried in Coventry.

In 2022, the state of Vermont adopted No. 154. An act relating to environmental justice in Vermont (S148). Here is an extract on the environmental burden that must be equitably distributed:

> (3) **"Environmental justice"** means all individuals are afforded equitable access to and distribution of environmental benefits; **equitable distribution of environmental burdens**; and fair and equitable treatment and meaningful participation in decision-making processes, including the development, implementation, and enforcement of environmental laws, regulations, and policies.

For the people of Vermont living in Lake Memphremagog basin, does having on its territory the only active landfill site for solid waste disposal in Vermont NOT constitute an « equitable distribution of environmental BURDENS »?

And doesn't this same principle of ENVIRONMENTAL JUSTICE also apply to the 175,000 Canadians who draw their drinking water from Lake Memphremagog?



Memphrémagog Conservation

NEWSVT Casella landfill site in Coventry, Vermont

# Lake Memphremagog Leachate Overdose and Environmental Justice

*Pretreatment discharge permit no 3-1406*

**APPENDIX B2**

Prepared by
**François Bélanger**, B.Sc.A., M.Ing.Env.
Volunteer technical consultant with MCI
*December 20, 2023 – 19 pages*

# Lake Memphremagog Leachate Overdose and Environmental Justice

The share of solid waste from residents of the Lake Memphremagog basin that would be buried at the Coventry site would be about no more than 5%.

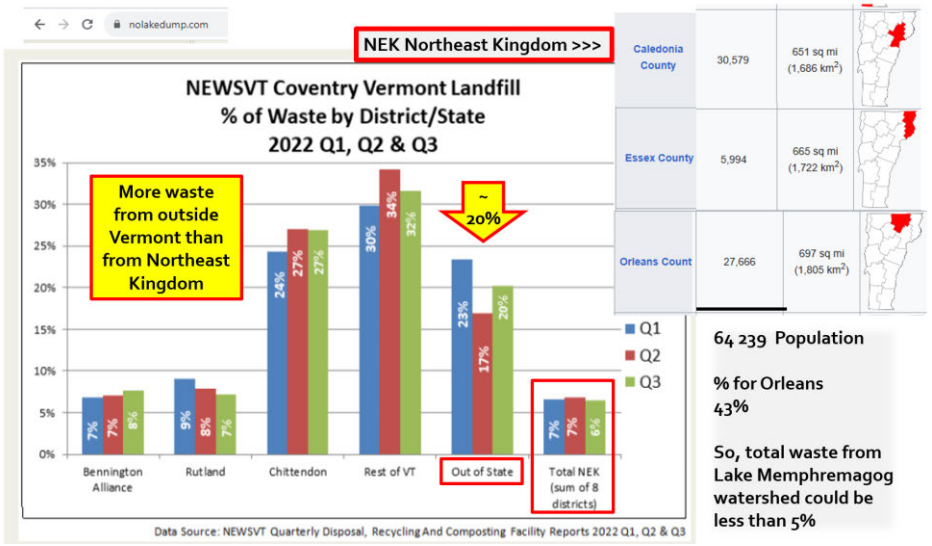
From 1993 to 2023, over a period of 31 years, the volume of leachate generated at the Coventry site is estimated at approximately 214,500,000 gallons. Of this volume, approximately 30%, 64,250,000 gallons, would have been sent to Newport WWTF without any prior pretreatment.

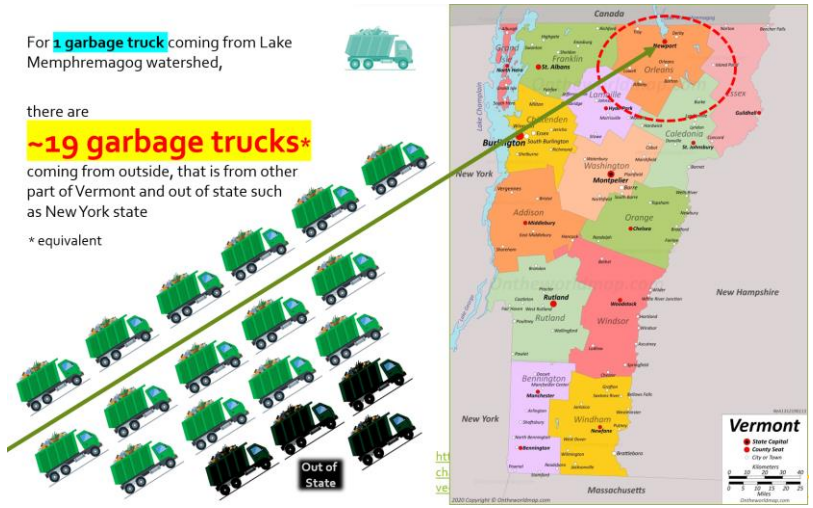
We therefore find ourselves with an excess of leachate which comes from waste from other basins in Vermont and even up to 20% from waste from other neighboring states. This OVERDOSE of leachate known as trash juice constitutes an unacceptable BURDEN which must not be added to the BURDEN of this mountain of waste which will be there for decades and centuries to come. Long-term management of this solid waste that contains many contaminants must go well beyond the 30 years post-closure.

**Having to manage this solid waste for such a long time, residents of the Lake Memphremagog basin must not add the BURDEN of leachate which must be borne by the other producers of their waste buried in Coventry.**

**THIS IS JUST ENVIRONMENTAL JUSTICE!**

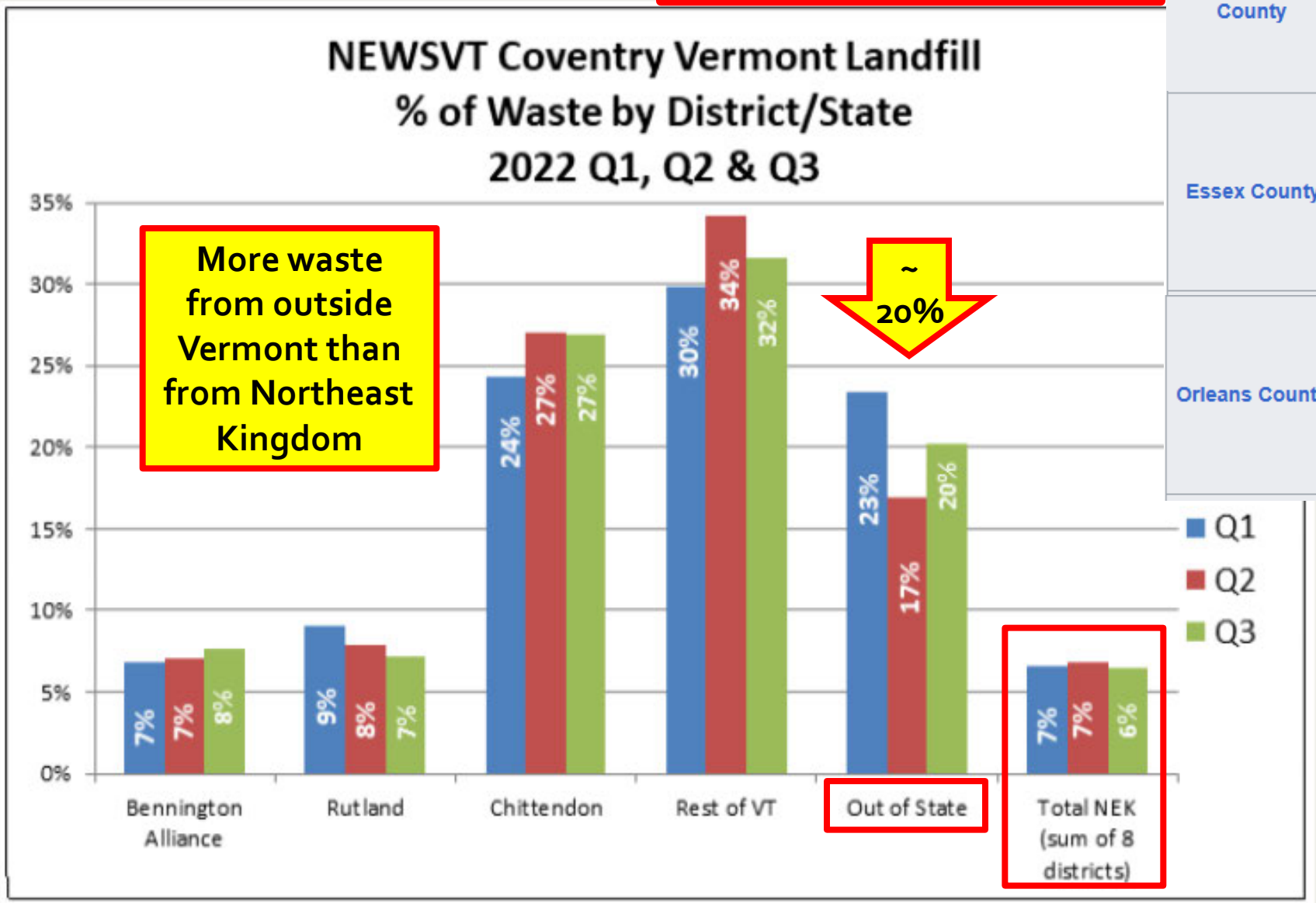
# 5% of solid waste from Lake Memphremagog basin residents



nolakedump.com

**NEK Northeast Kingdom >>>**




| | | | |
|---|---|---|---|
| Caledonia County | 30,579 | 651 sq mi (1,686 km²) |  |
| Essex County | 5,994 | 665 sq mi (1,722 km²) |  |
| Orleans Count | 27,666 | 697 sq mi (1,805 km²) |  |

64 239 Population

% for Orleans
43%

**So, total waste from Lake Memphremagog watershed could be less than 5%**

For **each garbage truck** coming from the Lake Memphremagog watershed,

**5%**

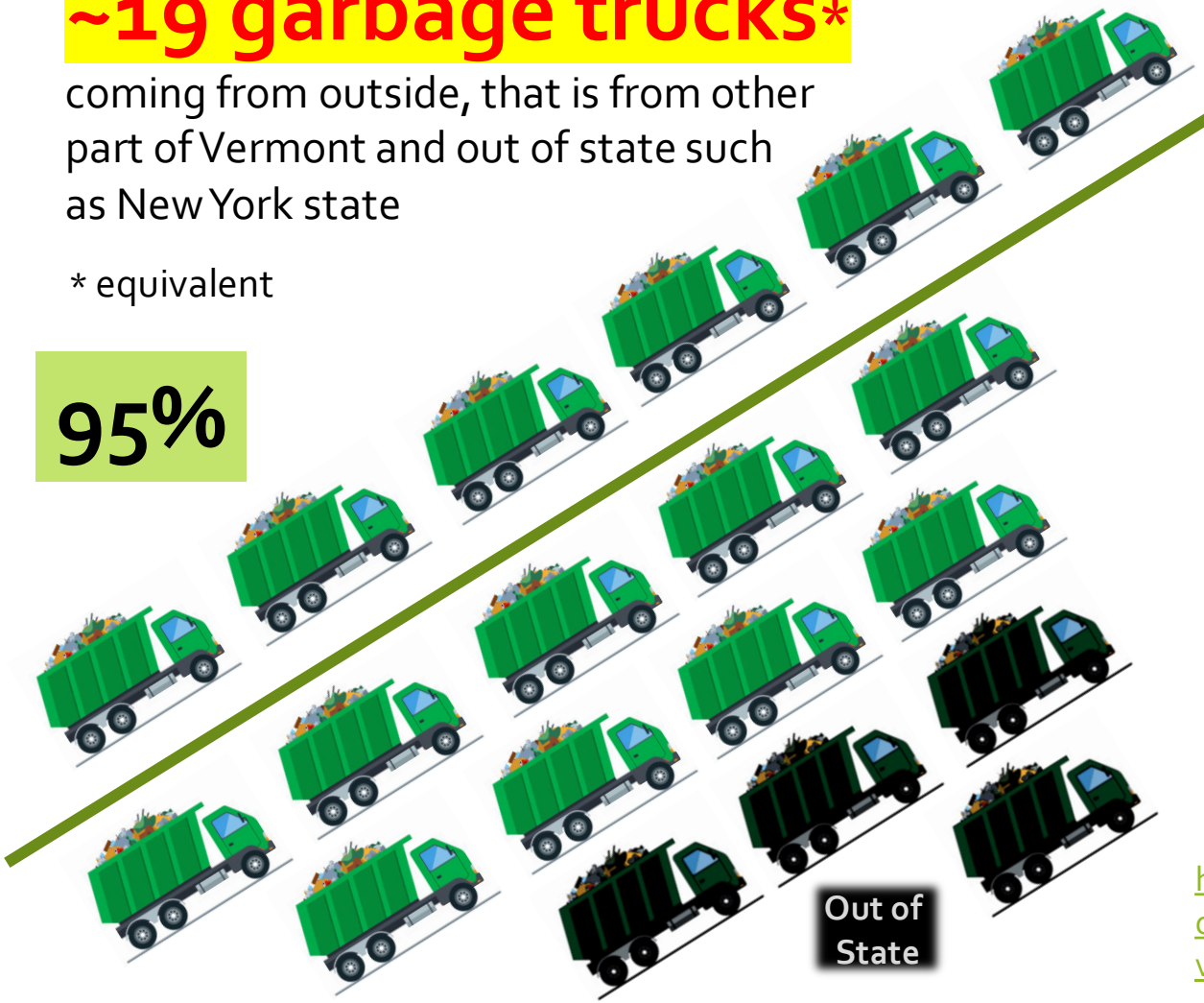
there are

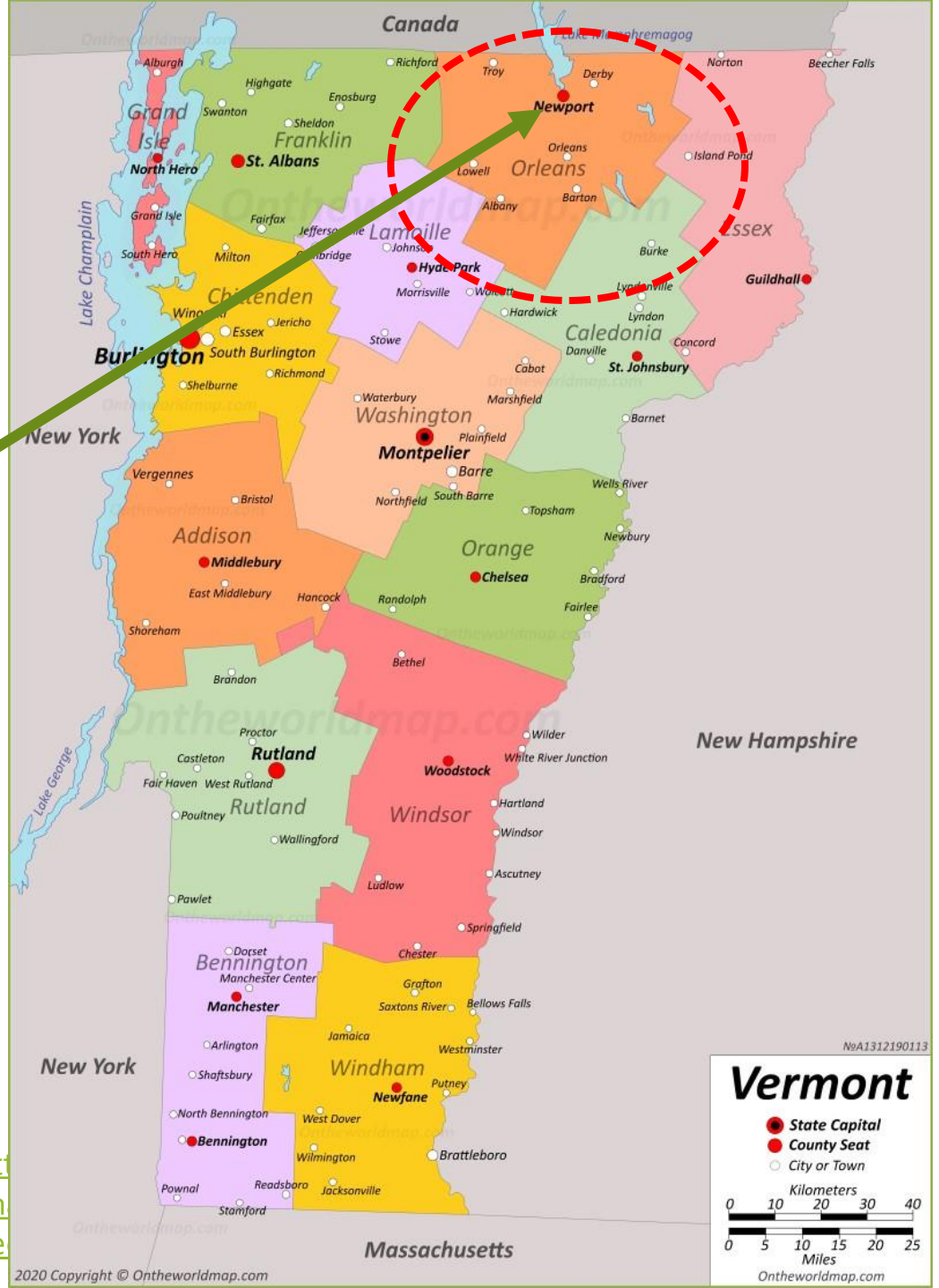
# ~19 garbage trucks*

coming from outside, that is from other part of Vermont and out of state such as New York state

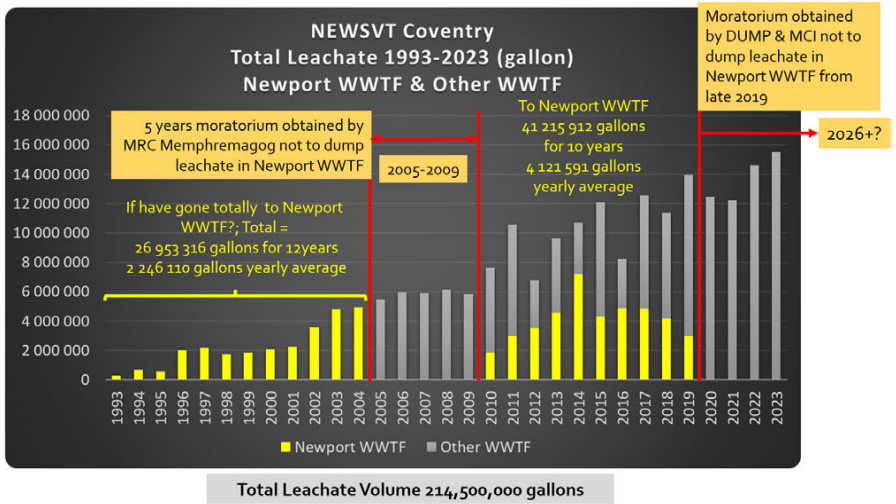
* equivalent

**95%**



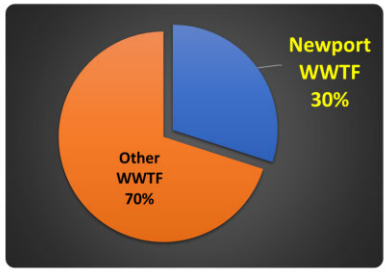
# 30% of leachate (garbage juice) to Newport WWTF




Total Leachate Volume 214,500,000 gallons

NEWSVT Coventry Total Leachate 1993-2023 (gallon)
Newport WWTF & Other WWTF

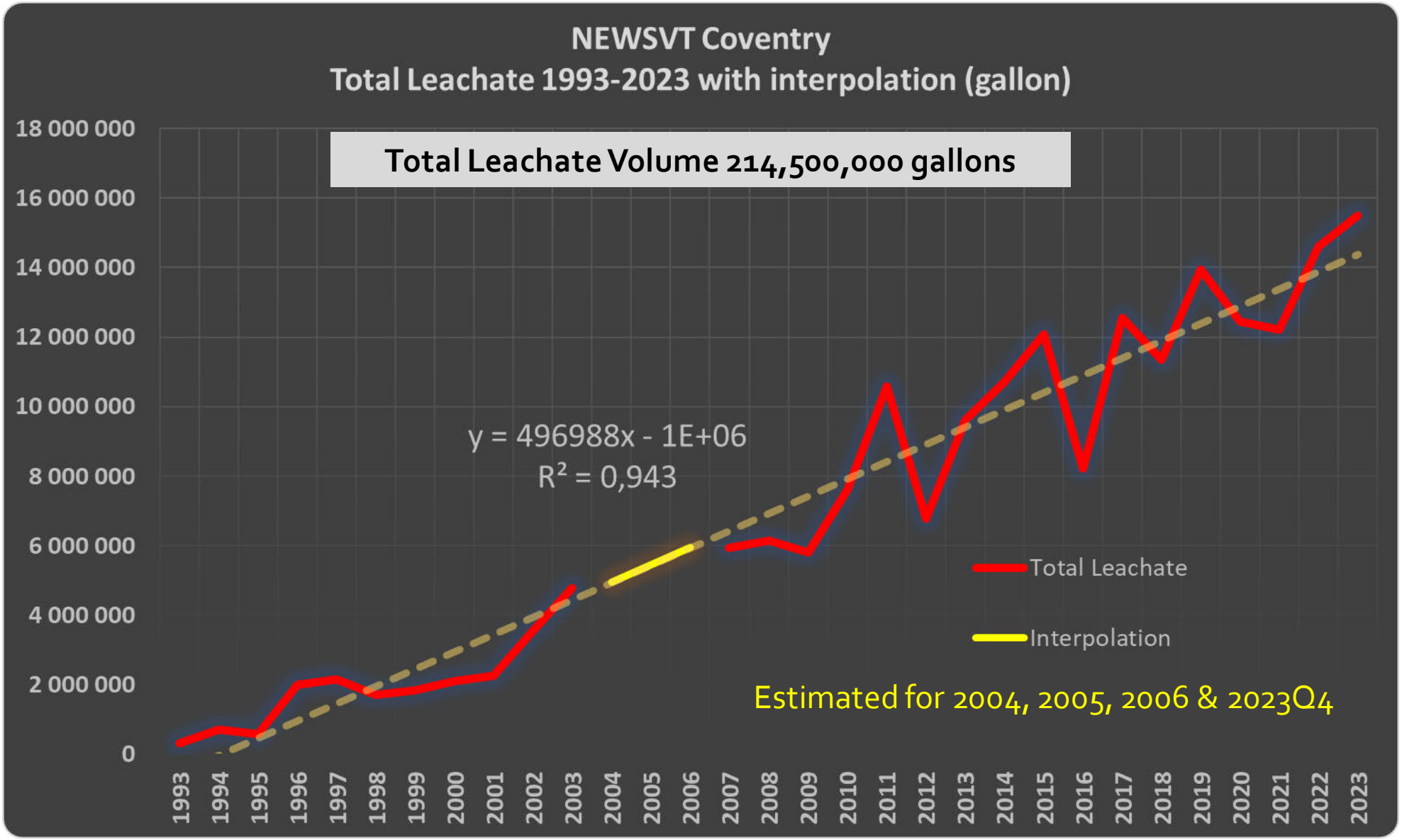
Considering that from 1993 to 2004, before the five-year moratorium, all the leachate went to Newport WWTF [1]




| | | |
|---|---|---|
| Newport WWTF | 64 250 112 | 30% |
| Other WWTF | 150 250 328 | 70% |
| | 214 500 439 | 100% |

**Possibility that up to 30% of leachate went to the Newport WWTF during the 31-year period from 1993 to 2023**

Note [1] : We have not yet obtained data from 1993 to 2004 that would confirm that all the leachate went to Newport WWTF. However, we assume this since the leachate volumes from 1993 to 2004 are less than those from the period 2010 to 2019 which were sent to Newport WWTF.


NEWSVT Coventry
Total Leachate 1993-2023 with interpolation (gallon)
Total Leachate Volume 214,500,000 gallons
y = 496988x - 1E+06
R² = 0,943
Total Leachate
Interpolation
Estimated for 2004, 2005, 2006 & 2023Q4
18 000 000
16 000 000
14 000 000
12 000 000
10 000 000
8 000 000
6 000 000
4 000 000
2 000 000
0
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
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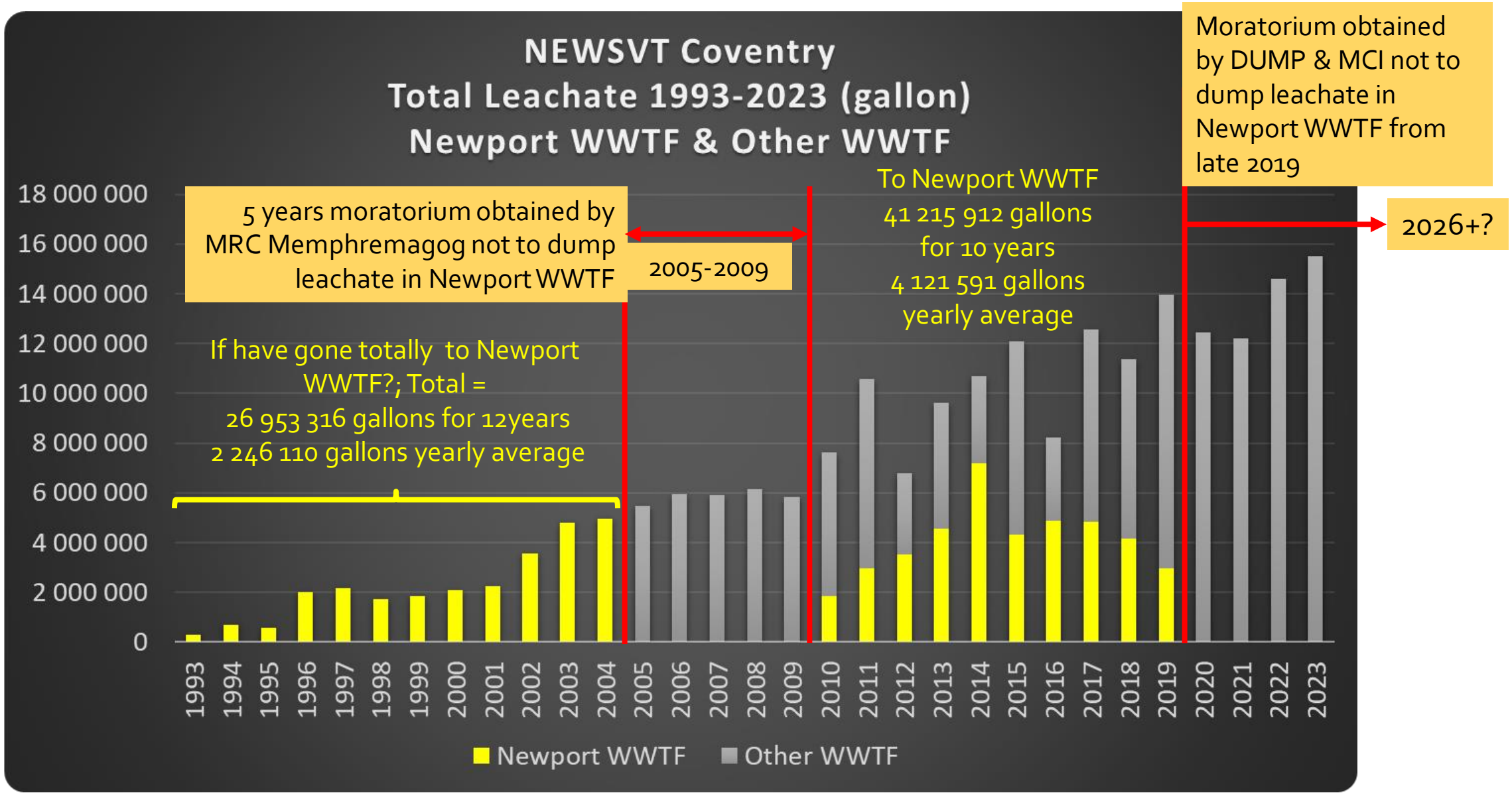
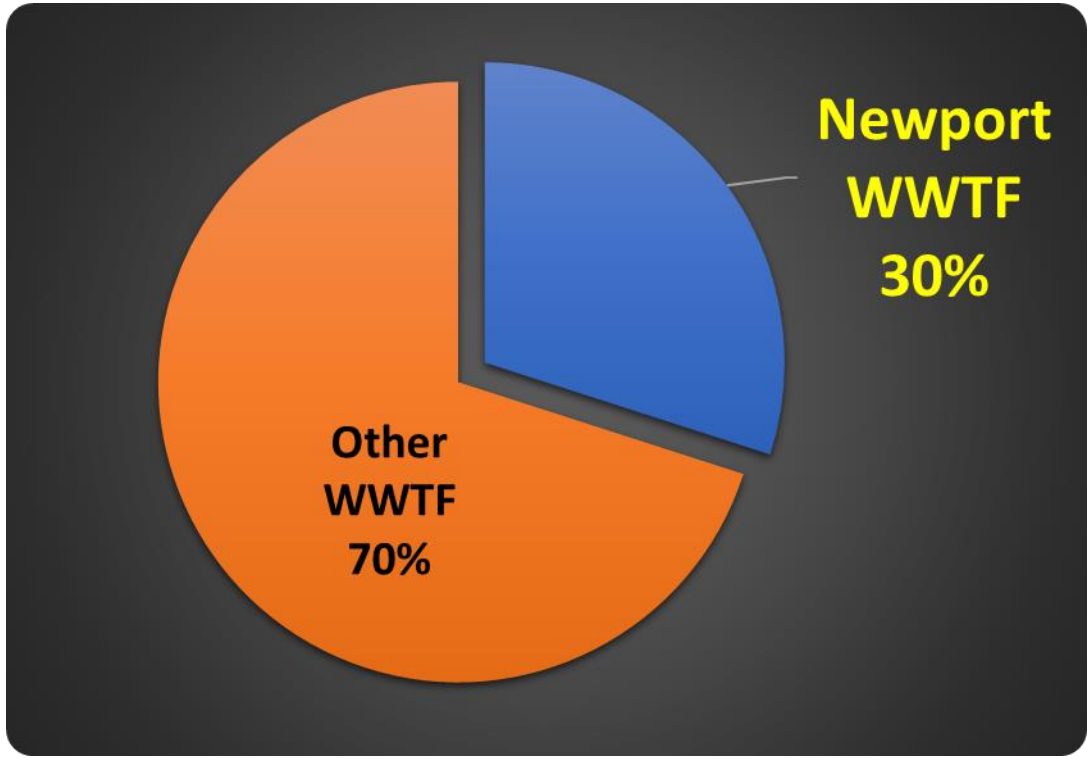
2022
2023




**Total Leachate Volume 214,500,000 gallons**

## NEWSVT Coventry Total Leachate 1993-2023 (gallon)
## Newport WWTF & Other WWTF

**Considering that from 1993 to 2004, before the five-year moratorium, all the leachate went to Newport WWTF [1]**




| | | |
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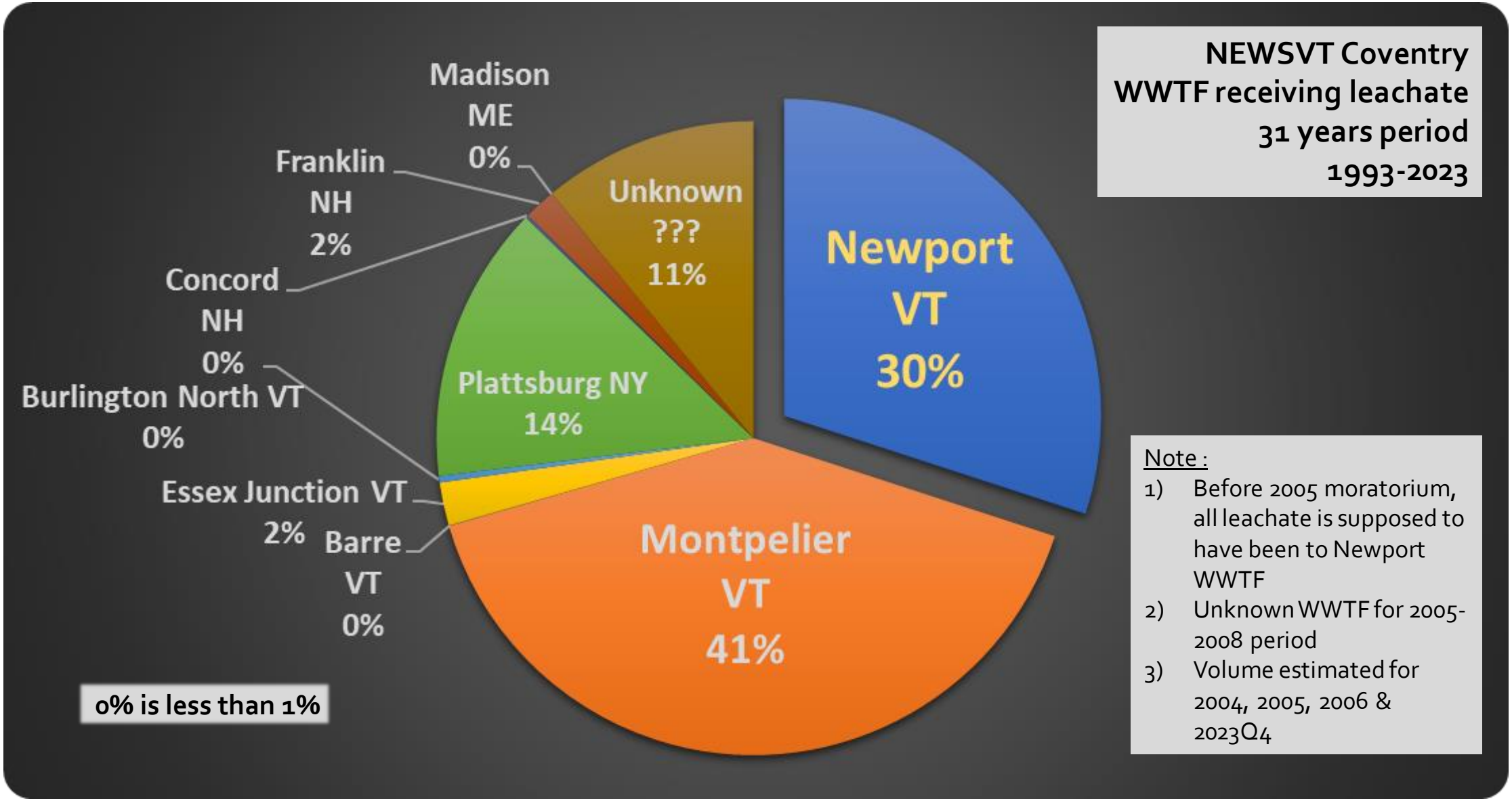
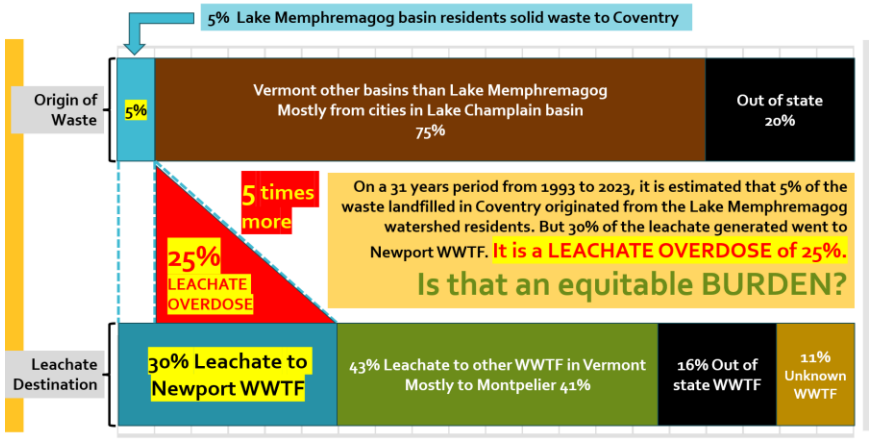
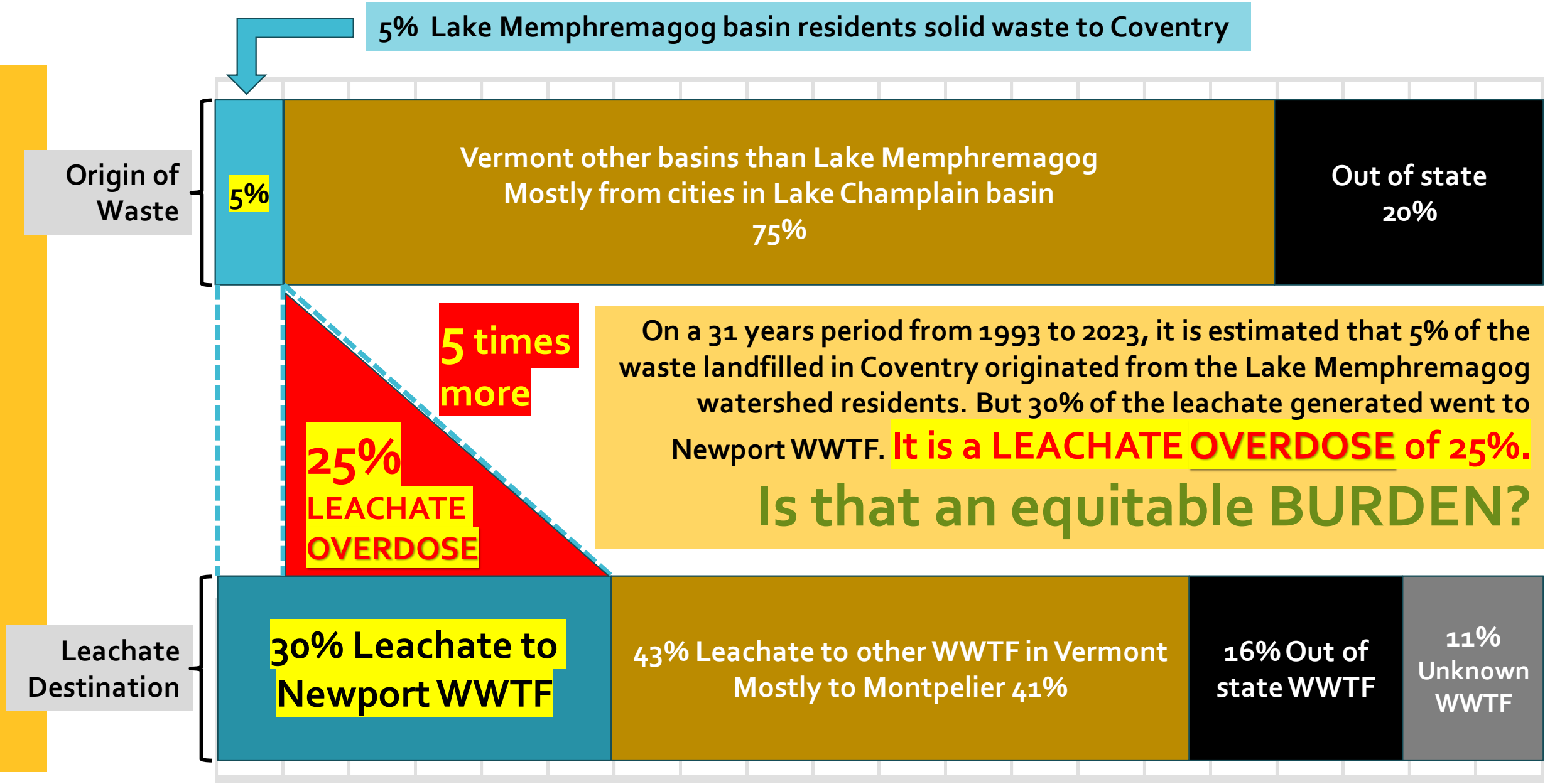
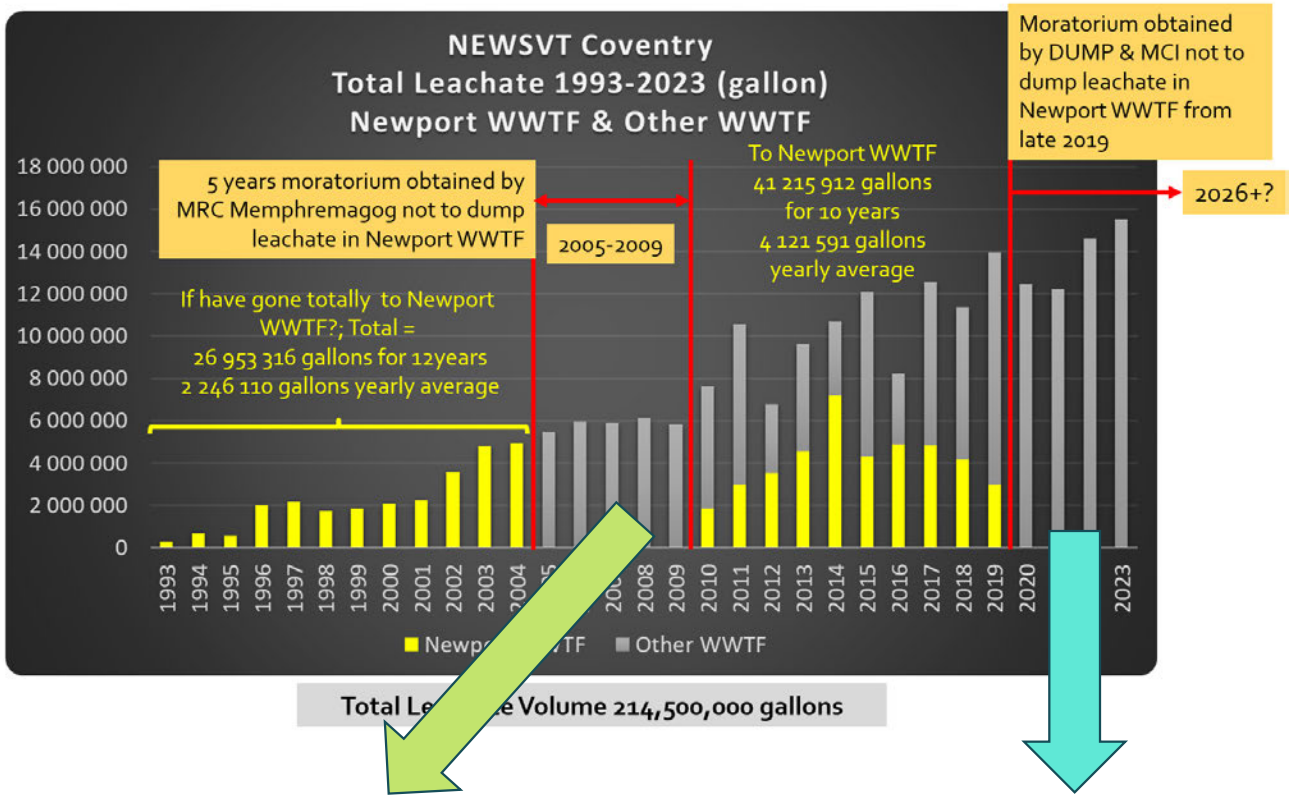

NEWSVT Coventry WWTF receiving leachate 31 years period 1993-2023
Madison ME 0%
Franklin NH 2%
Concord NH 0%
Burlington North VT 0%
Essex Junction VT 2%
Barre VT 0%
Unknown ??? 11%
Plattsburg NY 14%
Newport VT 30%
Montpelier VT 41%
0% is less than 1%
Note :
1) Before 2005 moratorium, all leachate is supposed to have been to Newport WWTF
2) Unknown WWTF for 2005-2008 period
3) Volume estimated for 2004, 2005, 2006 & 2023Q4

# OVERDOSE

# of leachate into Lake Memphremagog




5% Lake Memphremagog basin residents solid waste to Coventry
Origin of Waste
5%
Vermont other basins than Lake Memphremagog
Mostly from cities in Lake Champlain basin
75%
Out of state
20%
5 times more
25%
LEACHATE
OVERDOSE
On a 31 years period from 1993 to 2023, it is estimated that 5% of the waste landfilled in Coventry originated from the Lake Memphremagog watershed residents. But 30% of the leachate generated went to Newport WWTF. It is a LEACHATE OVERDOSE of 25%.
Is that an equitable BURDEN?
Leachate Destination
30% Leachate to Newport WWTF
43% Leachate to other WWTF in Vermont
Mostly to Montpelier 41%
16% Out of state WWTF
11% Unknown WWTF




The **OVERDOSE** would have been much higher if the MRC Memphremagog, DUMP and the MCI had not obtained two moratoriums so that Casella no longer sent their leachate to Newport WWTF or elsewhere in the Lake Memphremagog basin.

Thanks to the MRC Memphremagog for having obtained from Casella a first 5-year moratorium from 2005 to 2009 to no longer send leachate to Newport WWTF.

And congratulations to DUMP and MCI on the second moratorium beginning at the end of 2019 and extending through 2026 following a statement from Julie Moore secretary of the ANR. And after 2026, until Casella demonstrates to the satisfaction of the responsible commissioners that the restrictions of Land Use Permit #7R0841-13 can be lifted and pre-treated leachate can be sent to Newport WWTF.

**AGENCY OF NATURAL RESOURCES**
**DEPARTMENT OF ENVIRONMENTAL CONSERVATION**
**WATERSHED MANAGEMENT DIVISION**
**ONE NATIONAL LIFE DRIVE, DAVIS BUILDING, 3rd FLOOR**
**MONTPELIER, VT 05620-3522**

**FACT SHEET FOR *AMENDED* PERMIT**
~~September 2021 Revised December 2022~~
***November 2023***

**PRETREATMENT DISCHARGE PERMIT**

**PERMIT NO**: 3-1406
**PIN**: WY06-0020

**NAME AND ADDRESS OF APPLICANT:**

New England Waste Services, Inc.
1855 Vermont Route 100
Hyde Park, Vermont 05655

4. **Elimination of S/N 006**: City of Newport WWTF, 94 Treatment Plant Lane, Newport, VT. The permit does not authorize a discharge to the Newport City WWTF in accordance with Condition 18. of the Secretary's Act 250 decision pursuant to Case No: 7R0841-13. The Condition specifically prohibits the discharge of landfill leachate to the Newport City WWTF until "new science, new technology and/or or new data which demonstrates, or seeks to demonstrate, that the risk to the Lake Memphremagog water quality (drinking water supply) will not be unduly adverse.".

State of Vermont

# LAND USE PERMIT



**CASE NO: 7R0841-13**
New England Waste
Services of Vermont, Inc.
220 Avenue B
Williston, VT 05495

**LAWS/REGULATIONS INVOLVED**
10 V.S.A. §§ 6001 - 6093 (Act 250)

18. a. Disposal of landfill leachate from the Facility, including that generated from all Phases of the landfill (Phase I-IV) and from Phase VI, is not permitted at the Newport WWTF. Permittee may not dispose of leachate at the Newport WWTF, nor dispose of landfill leachate on-site or elsewhere within the watershed of Lake Memphremagog, without Act 250 permit amendment. This restriction shall take effect 90 days from the date of issuance of this permit.

b. Permittee may apply for Act 250 permit amendment, to modify this restriction, if such an amendment application is supported by new science, new technology and/or or new data which demonstrates, or seeks to demonstrate, that the risk to the Lake Memphremagog water quality (drinking water supply) will not be unduly adverse.

c. Permittee shall apply for an Act 250 permit amendment for any change to its method of leachate management, pre-treatment, and disposal, including but not limited to construction of on-site treatment systems.

d. Permittee shall submit a copy of its study of treatment options for leachate management (two onsite and two offsite, with both studies to be completed by October 12, 2019) to the District Commission for its file.

# Environmental Justice

## Vermont Environmental Justice Bill

(Draft No. 6.1 – S.148)
4/27/2022 - EMC - 9:28 AM

Page 7 of 23

(3) "Environmental justice" means all individuals are afforded equitable access to and distribution of environmental benefits; equitable distribution of environmental burdens; and fair and equitable treatment and meaningful participation in decision-making processes, including the development, implementation, and enforcement of environmental laws, regulations, and policies. Environmental justice recognizes the particular needs of individuals

**For the people of Vermont living in Lake Memphremagog basin, does having on its territory the only active landfill site for solid waste disposal in Vermont constitute a NOT « equitable distribution of environmental BURDENS » ?**

**And doesn't this same principle of ENVIRONMENTAL JUSTICE also apply to the 175,000 Canadians who draw their drinking water from Lake Memphremagog?**

**MCI objectives are simple and clear : to have Newport WWTF removed**

**«forever»**

**from the NEWSVT Coventry list of leachate destination even after treatment and have the leachate final destination out of Lake Memphremagog basin**

**«forever»**

**What is the state of Vermont's position on MCI's request to completely ban the disposal of raw, pretreated or treated leachate from the NEWSVT Coventry site to the Newport WWTF or elsewhere in the Lake Memphremagog basin?**

# Vermont Environmental Justice Bill

No. 154
2022 (S.148) Page 6 of 20

**No. 154. An act relating to environmental justice in Vermont.**

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# What is the state of Vermont's position on MCI's request to completely ban the disposal of raw, pretreated or treated leachate from the NEWSVT Coventry site to the Newport WWTF or elsewhere in the Lake Memphremagog basin?


Lac Memphrémagog
Lake Memphremagog
Un environnement partagé à préserver pour toujours
A shared environment to preserve forever
Photo MCI Gisèle Benoit
MERCI ! THANK YOU !

Memphrémagog Conservation

# APPENDIX C1 - Summary

## Lake Memphremagog Fish Contamination and Environmental Justice

The Vermont DEC 2021 Vermont Per- and Polyfluoroalkyl Substances (PFAS) Study Surface Water, Fish Tissue, and Wastewater Treatment Facility Effluent Monitoring Report revealed significant quantities of PFAS and mainly PFOS in the flesh of fish observed in the Lake Memphremagog basin but also in other waterways in Vermont, and particularly also in the Winooski River.

One of the major contaminants is this family of PFAS made up of thousands of molecules of which only a limited number are subject to evaluation and control. NEWSVT and Vermont studies have revealed that PFAS are rarely removed in municipal wastewater treatment plants such as those in Newport.

Even, some of the PFAS which are the most toxic see their concentration increase through the degradation of precursors in some municipal wastewater treatment plants. We assess that significant quantities of PFAS could have been discharged into Lake Memphremagog at the Newport WWTF effluent.

This overdose of PFAS from the Coventry site is added to the PFAS from municipal wastewater, and from soil drainage during rains and snow melt. Although low in concentration in Lake Memphremagog, the 2021 Vermont study found significant bioaccumulation in the flesh of all fish evaluated. Would levels of PFOS, one of the most toxic PFAS molecules, reach a threshold that would make human consumption of these fish risky?

As for fish from the Lake Memphremagog basin, the concentration of PFOS was on average close to 1500 ng/kg of wet flesh, which is high. Some of these species being edible, such as yellow perch and brown bullhead, does their human consumption represent risks? And if so, what would be the consumption limits to avoid health risks? PFOS is recognized as toxic, and also carcinogenic. By comparing the concentration of 1500 ng/kg with some standards of Vermont, we were able to summarily deduce a certain level of danger from the consumption of the fish which were the subject of the study.

Thus, for Vermont, a liquid is considered dangerous if the sum of PFOA and PFOS exceeds 20 ng/L. Also, for drinking water consumption, Vermont's regulation is that the sum of five PFAS including PFOA and PFOS must not exceed 20 ng/L. For the fish observed, PFOA not having been detected, only PFOS will be included in the comparison. With an average concentration of 1477 ng/kg PFOS in fish flesh, this is 74 times higher than 20 ng/L. And for a portion of 150 g, that would be 222 ng PFOS so 11 times more than 20 ng/L.

Should Lake Memphremagog see its fish even more contaminated by significant inputs of PFAS from leachate generated by waste coming from municipalities in Vermont outside our lake basin and even from other states?

In 2022, the state of Vermont adopted No. 154. An act relating to environmental justice in Vermont (S148). Here is an extract on the environmental burden that must be equitably distributed:

> (3) **"Environmental justice"** means all individuals are afforded equitable access to and distribution of environmental benefits; **equitable distribution of environmental burdens**; and fair and equitable treatment and meaningful participation in decision-making processes, including the development, implementation, and enforcement of environmental laws, regulations, and policies.

OVERDOSE of leachate at Newport WWTF due to inputs of solid waste from outside the Lake Memphremagog basin contribute to MORE PFAS into Lake Memphremagog and EXTRA PFOS fish tissue contamination. Does that constitute a NOT « equitable distribution of environmental BURDENS »?

**MCI objectives are simple and clear:**

**to have Newport WWTF removed «forever» from the NEWSVT Coventry list of leachate destinations even after treatment and have the leachate's final destination out of Lake Memphremagog basin «forever».**

What is the state of Vermont's position on MCI's request to completely ban the disposal of raw, pretreated or treated leachate from the NEWSVT Coventry site to the Newport WWTF or elsewhere in the Lake Memphremagog basin?

Memphrémagog Conservation

NEWSVT Casella landfill site in Coventry, Vermont

# Lake Memphremagog Fish Contamination and Environmental Justice

*Pretreatment discharge permit no 3-1406*

**APPENDIX C2**

Prepared by
**François Bélanger**, B.Sc.A., M.Ing.Env.
Volunteer technical consultant with MCI
*December 20, 2023 – 20 pages*

**NEWSVT Casella landfill site in Coventry, Vermont**

# Lake Memphremagog Fish Contamination and Environmental Justice

One of the major contaminants is this family of PFAS made up of thousands of molecules of which only a limited number are subject to evaluation and control. NEWSVT and Vermont studies have revealed that PFAS are rarely removed in municipal wastewater treatment plants such as those in Newport.

Even, some of the PFAS which are the most toxic see their concentration increase through the degradation of precursors in some municipal wastewater treatment plants. We assess that significant quantities of PFAS could have been discharged into Lake Memphremagog at the Newport WWTF effluent.

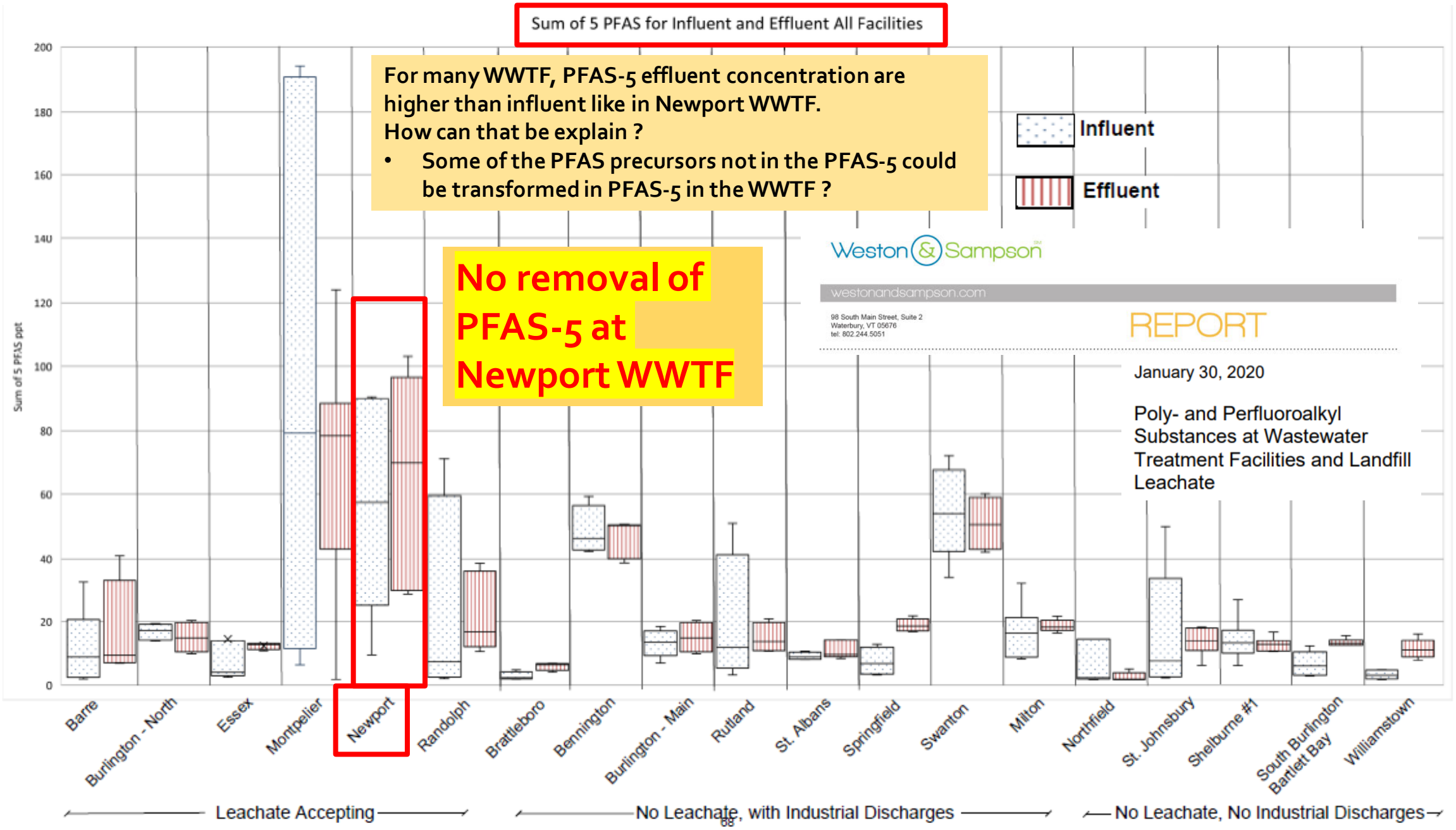
This overdose of PFAS from the Coventry site is added to the PFAS from municipal wastewater, and from soil drainage during rains and melting snow. Although low in concentration in Lake Memphremagog, the 2021 Vermont study found significant bioaccumulation in the flesh of all poisons evaluated. Would levels of PFOS, one of the most toxic PFAS molecules, reach a threshold that would make human consumption of these fish risky?

**Should Lake Memphremagog see its fish even more contaminated by significant inputs of PFAS from leachate generated by waste coming from municipalities in Vermont outside our lake basin and even from other states?**

## IS THIS ENVIRONMENTAL JUSTICE?

**OVERDOSE**

of leachate at Newport WWTF has contributed to **MORE PFAS** into Lake Memphremagog


Sum of 5 PFAS for Influent and Effluent All Facilities
For many WWTF, PFAS-5 effluent concentration are higher than influent like in Newport WWTF.
How can that be explain ?
• Some of the PFAS precursors not in the PFAS-5 could be transformed in PFAS-5 in the WWTF ?
No removal of PFAS-5 at Newport WWTF
Influent
Effluent
Weston & Sampson
westonandsampson.com
98 South Main Street, Suite 2
Waterbury, VT 05676
tel: 802.244.5051
REPORT
January 30, 2020
Poly- and Perfluoroalkyl Substances at Wastewater Treatment Facilities and Landfill Leachate
Sum of 5 PFAS ppt
0
20
40
60
80
100
120
140
160
180
200
Barre
Burlington - North
Essex
Montpelier
Newport
Randolph
Brattleboro
Bennington
Burlington - Main
Rutland
St. Albans
Springfield
Swanton
Milton
Northfield
St. Johnsbury
Shelburne #1
South Burlington Bartlett Bay
Williamstown
Leachate Accepting
No Leachate, with Industrial Discharges
No Leachate, No Industrial Discharges

# Evaluation from

VERMONT AGENCY OF NATURAL RESOURCES

**2021 Vermont Per- and Polyfluoroalkyl Substances (PFAS) Surface Water, Fish Tissue, and Wastewater Treatment Facility Effluent Monitoring Report**

April 4, 2022

VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION
WATERSHED MANAGEMENT DIVISION

VERMONT
AGENCY OF NATURAL RESOURCES
Department of Environmental Conservation

2021 Vermont PFAS Surface Water, Fish Tissue, and WWTF Effluent Monitoring Report

Table 9. Concentrations of PFAS in Fish Tissue Samples (µg/kg)

Site Name andLocation

Fish Tissue (µg/kg),wet weight

## In Lake Memphremagog Watershed

### PFOS

| n=29 | µg/kg | ng/kg or ppt |
|---|---|---|
| Mean | 1,48 | 1 477 |
| Median | 1,27 | 1 270 |
| Minimum | 0,346 | 346 |
| Maximum | 4,93 | 4 930 |

*Wikipedia pictures*

Yellow Perch

Largemouth Bass

Brown Bullhead

Rock Bass

| LAKE MEMPHREMAGOG WATERSHED | | | | |
|---|---|---|---|---|
| 1 µg = 1000 ng | | PFOS | PFOS | PFOS |
| | n | Mean | Minimum | Maximum |
| | | µg/kg | µg/kg | µg/kg |
| Yellow Perch | 6 | 1,25 | 0,363 | 2,83 |
| Largemouth Bass | 12 | 1,89 | 0,997 | 4,93 |
| Brown Bullhead | 10 | 1,16 | 0,346 | 1,98 |
| Rock Bass | 1 | 1,08 | 1,08 | 1,08 |
| | 29 | 1,48 | 0,346 | 4,93 |

# Brown Bullhead

Between **35% and 45%** of the mature brown bullhead in Lake Memmhremagog have **melanoma, a skin cancer**

*Abagael Giles / Vermont Public*

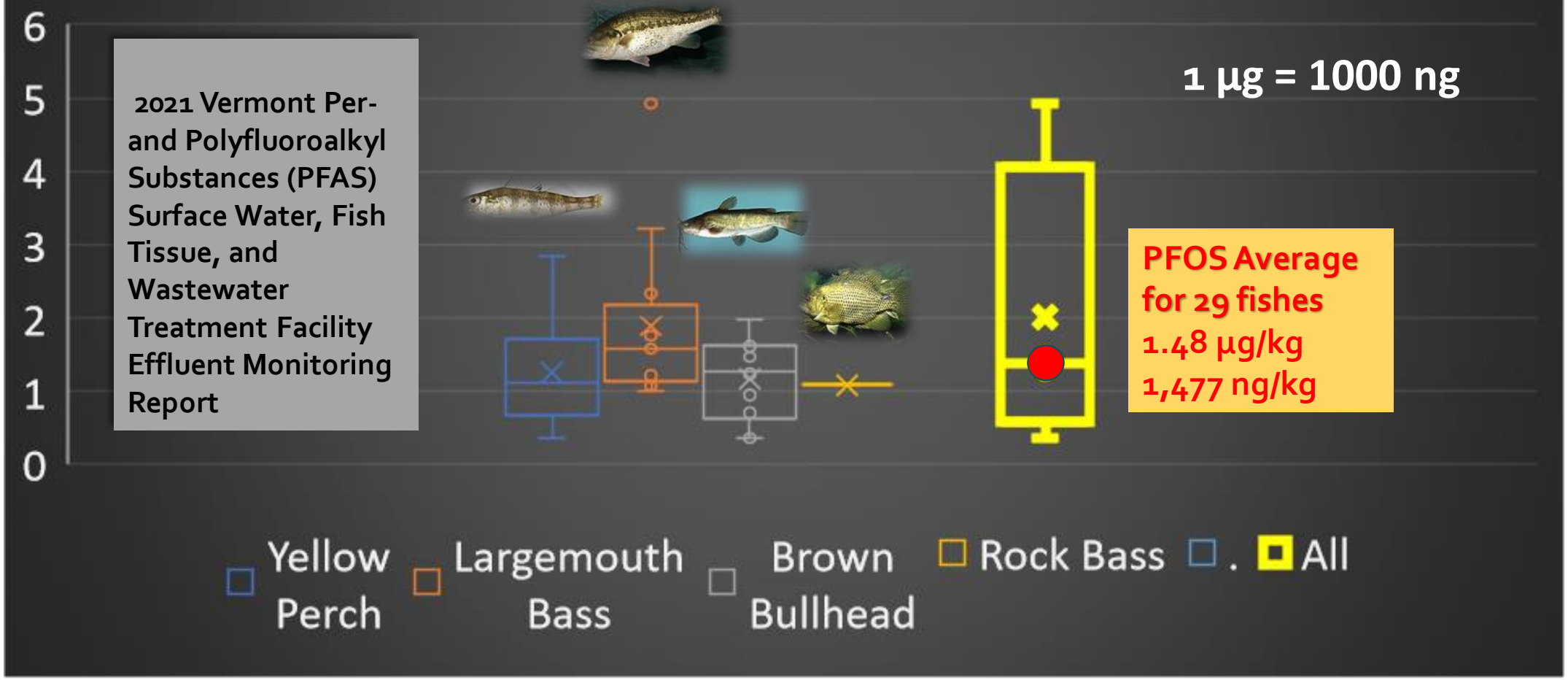
While collecting data back at the dock in Newport, Pete Emerson (left) holds up a brown bullhead with melanomas on the left, while a colleague holds up a healthy fish. Both were caught in Lake Memphremagog in May 2023.

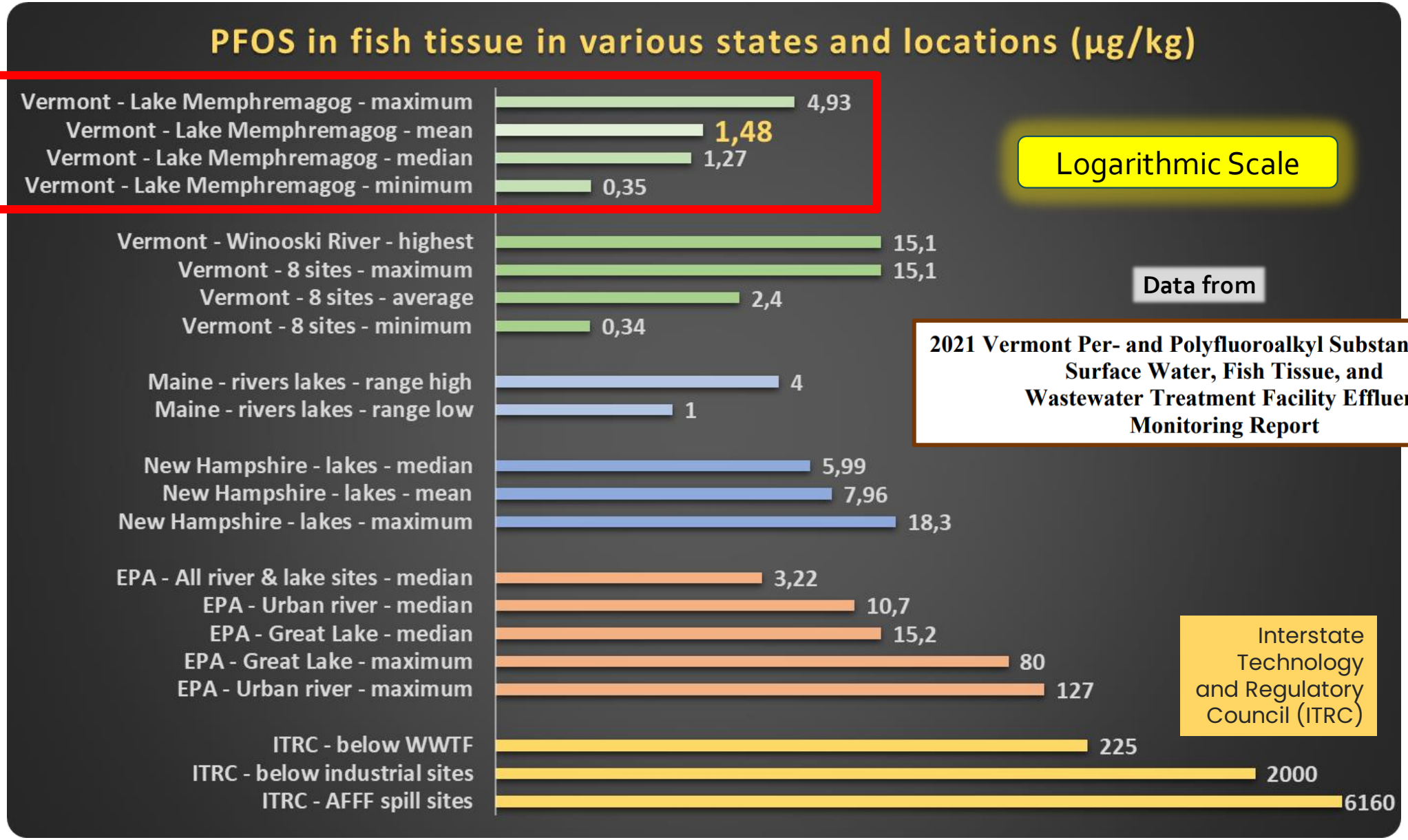
An excerpt from a Vermont Public article from September 13, 2023:

« Pete Emerson, the state fisheries biologist for Vermont's Northeast Kingdom, and others have found that between **35% and 45%** of the mature brown bullhead in this lake have **melanoma, a skin cancer**. It's super rare in fish, especially bottom feeders like these. In fact, this rate of cancer has never been documented in fish anywhere else.»

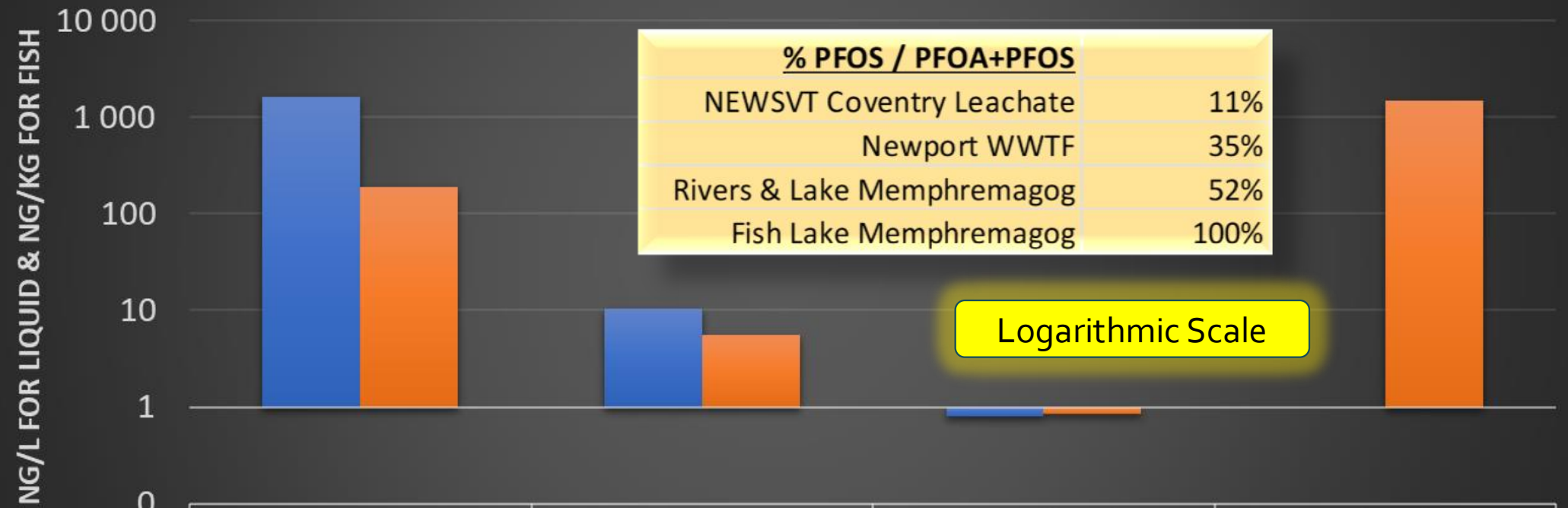
Scientists hope genetics could tell them why these catfish in Lake Memphremagog have a rare cancer | Vermont Public

# VERMONT LAKE MEMPHREMAGOG WATERSHED
## 2021 - PFOS in fish tissue (µg/kg)

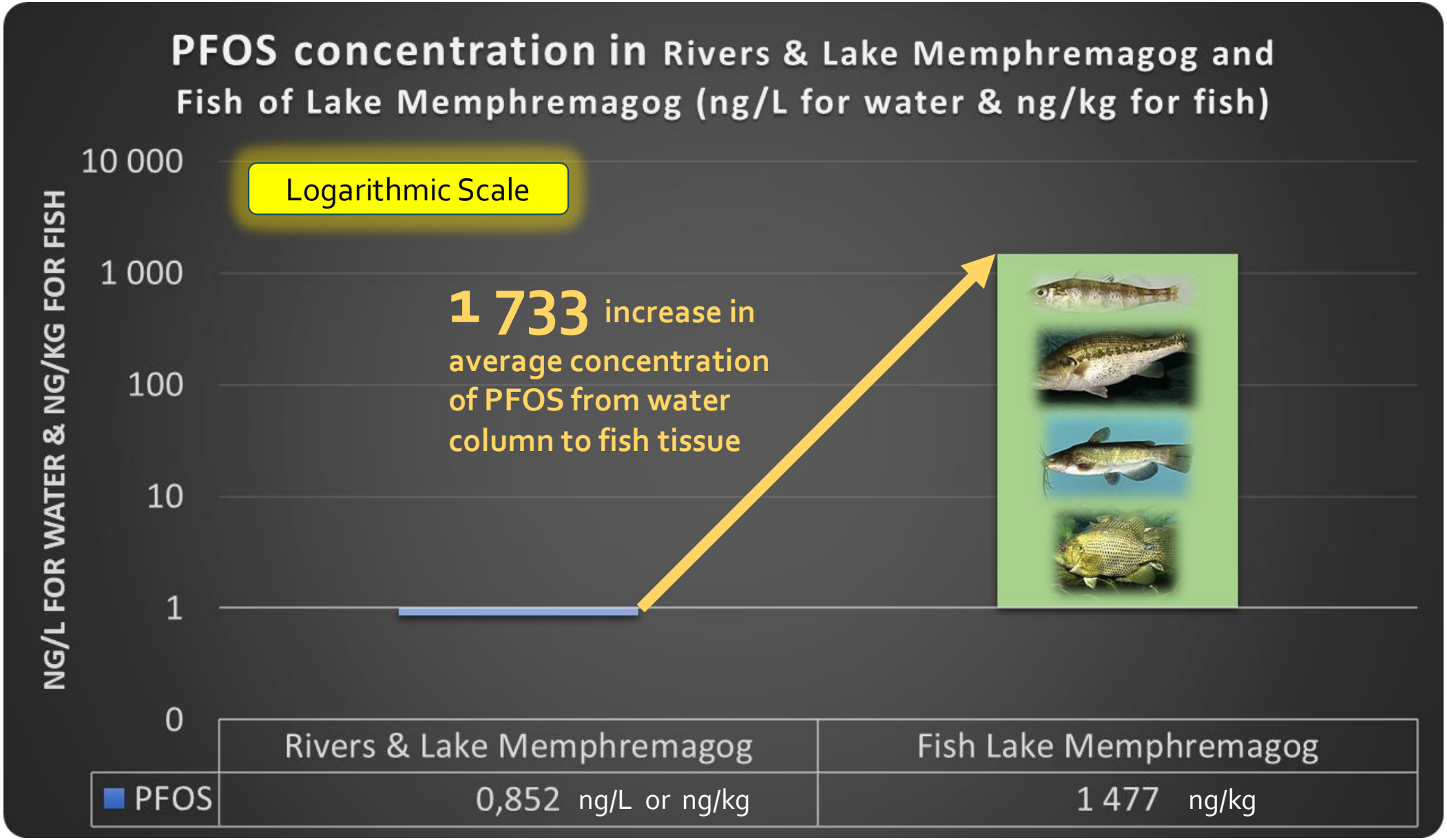



PFOS in fish tissue in various states and locations (µg/kg)
Vermont - Lake Memphremagog - maximum
4,93
Vermont - Lake Memphremagog - mean
1,48
Vermont - Lake Memphremagog - median
1,27
Vermont - Lake Memphremagog - minimum
0,35
Logarithmic Scale
Vermont - Winooski River - highest
15,1
Vermont - 8 sites - maximum
15,1
Vermont - 8 sites - average
2,4
Vermont - 8 sites - minimum
0,34
Data from
2021 Vermont Per- and Polyfluoroalkyl Substances (PFAS) Surface Water, Fish Tissue, and Wastewater Treatment Facility Effluent Monitoring Report
Maine - rivers lakes - range high
4
Maine - rivers lakes - range low
1
New Hampshire - lakes - median
5,99
New Hampshire - lakes - mean
7,96
New Hampshire - lakes - maximum
18,3
EPA - All river & lake sites - median
3,22
EPA - Urban river - median
10,7
EPA - Great Lake - median
15,2
EPA - Great Lake - maximum
80
EPA - Urban river - maximum
127
Interstate Technology and Regulatory Council (ITRC)
ITRC - below WWTF
225
ITRC - below industrial sites
2000
ITRC - AFFF spill sites
6160

# PFOA & PFOS in NEWSVT Coventry Leachate, Newport WWTF, Rivers & Lake Memphremagog and Fish of Lake Memphremagog (ng/L for liquid & ng/kg for fish)




| | NEWSVT Coventry Leachate | Newport WWTF | Rivers & Lake Memphremagog | Fish Lake Memphremagog |
|---|---|---|---|---|
| PFOA | 1617 | 10,48 | 0,793 | Not Detected |
| PFOS | 192 | 5,57 | 0,852 | 1 477 |


PFOS concentration in Rivers & Lake Memphremagog and Fish of Lake Memphremagog (ng/L for water & ng/kg for fish)
NG/L FOR WATER & NG/KG FOR FISH
10 000
1 000
100
10
1
0
Logarithmic Scale
1 733 increase in average concentration of PFOS from water column to fish tissue
Rivers & Lake Memphremagog
Fish Lake Memphremagog
PFOS
0,852 ng/L or ng/kg
1 477 ng/kg

# PFOA & PFOS Fish

## Compared to Vermont Regulations

## PFAS Vermont Rules & Regulations

| Vermont Rules or Regulations PFAS | Vermont Groundwater Protection Rule & Strategy | Vermont Water Supply Rule | Vermont Hazardous Waste Management Regulations | *Vermont Surface Water Quality* | *VT Health Warnings Fish Consumption* |
|---|---|---|---|---|---|
| **Adopted** | July 6, 2019 | March 17, 2020 | February 1, 2022 | *Expected for 2024* | *Expected for ?* |
| **Description** | Action Level | Maximum Contaminant Level (MCL) | Classified as hazardous wastes | *Will it be based on EPA 842-D-22-005 April 2022 ?* | |
| **Value** | 20 ng/L | 20 ng/L | >= 20 ng/L | | |
| **PFAS considered** | Sum of five PFAS in groundwater<br>• **PFOA**<br>• **PFOS**<br>• **PFHxS**<br>• **PFHpA**<br>• **PFNA** | Sum of five PFAS in drinking water<br>• **PFOA**<br>• **PFOS**<br>• **PFHxS**<br>• **PFHpA**<br>• **PFNA** | Sum of two PFAS in liquid wastes<br>• **PFOA**<br>• **PFOS** | Fact Sheet: Draft 2022 Aquatic Life Ambient Water Quality Criteria for Perfluorooctanoic acid (PFOA) and Perfluorooctane Sulfonic Acid (PFOS) | |
| **Description** | | Preventive Action Level | | Next page | |
| **Value** | | 2 ng/L for sum of five PFAS | | | |

EPA United States Environmental Protection Agency

**Table 1. Draft Recommended Freshwater Aquatic Life Water Quality Criteria for PFOA and PFOS**

| Criteria Component | Acute Water Column (CMC)[1] | Chronic Water Column (CCC)[2] | Invertebrate Whole-Body | Fish Whole-Body | Fish Muscle |
|---|---|---|---|---|---|
| **PFOA Magnitude** | 49 mg/L | 0.094 mg/L | 1.11 mg/kg ww | 6.10 mg/kg ww | 0.125 mg/kg ww |
| **PFOS Magnitude** | 3.0 mg/L | 0.0084 mg/L | 0.937 mg/kg ww | 6.75 mg/kg ww | 2.91 mg/kg ww |
| **Duration** | 1-hour average | 4-day average | Instantaneous[3] | | |
| **Frequency** | Not to be exceeded more than once in three years, on average | Not to be exceeded more than once in three years, on average | Not to be exceeded more than once in ten years, on average | | |

[1] Criterion Maximum Concentration.
[2] Criterion Continuous Concentration.
[3] Tissue data provide instantaneous point measurements that reflect integrative accumulation of PFOA or PFOS over time and space in aquatic life population(s) at a given site.

https://www.epa.gov/system/files/documents/2022-04/pfoa-pfos-draft-factsheet-2022.pdf

STATE OF VERMONT
Agency of Natural Resources

Effective: February 1, 2022

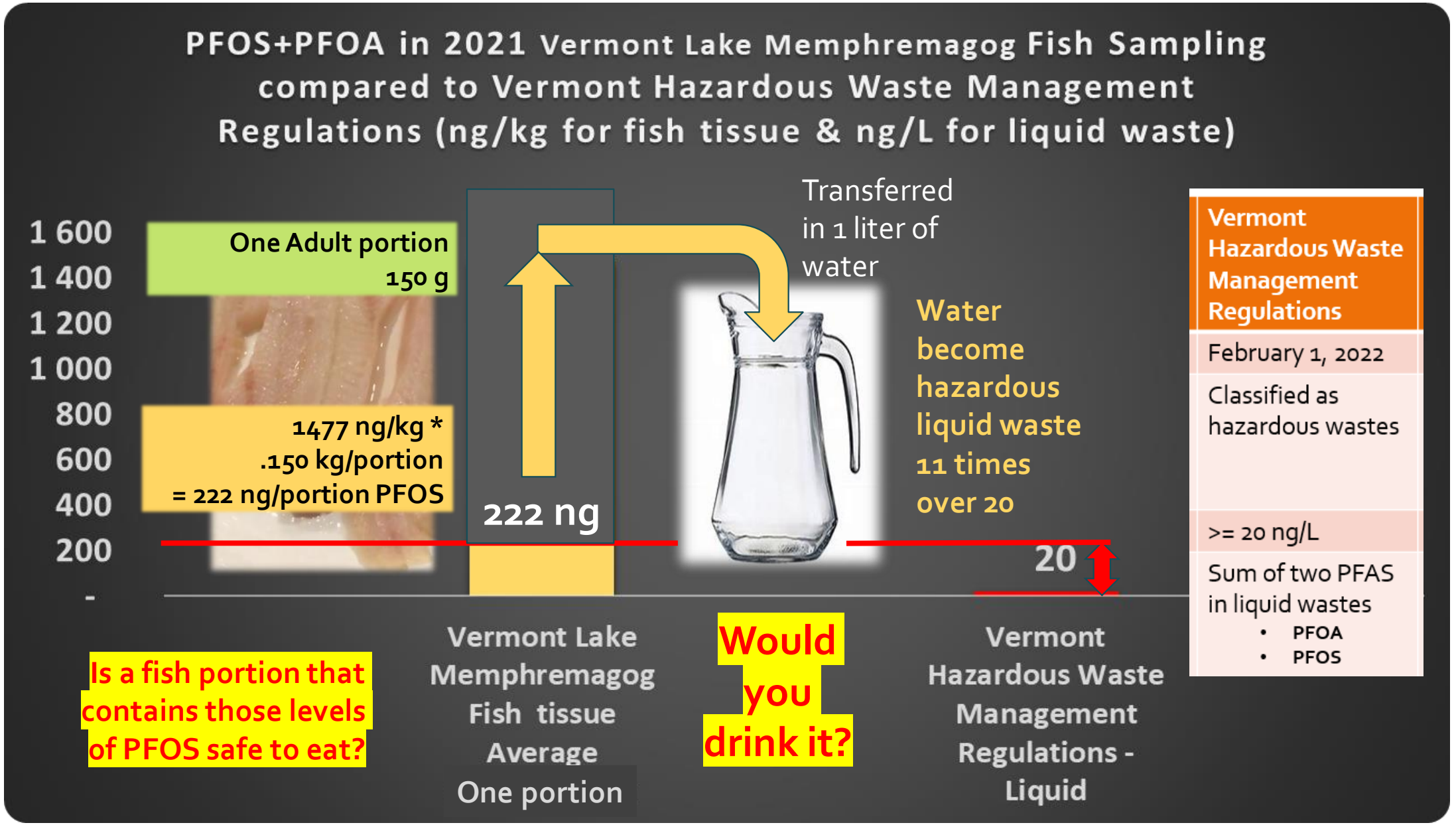
# Hazardous Waste Management Regulations

VERMONT

VERMONT HAZARDOUS WASTE MANAGEMENT REGULATIONS

| Hazardous Waste Code | Vermont Listed Hazardous Waste | Hazard |
|---|---|---|
| VT21 | Liquid wastes containing perfluorooctanoic acid (PFOA) in concentrations equal to or greater than 20 parts per trillion (ppt). For PFOA and PFOS, the standard of 20 ppt applies to the sum of the two substances (e.g. if the PFOA concentration is 15 ppt and the PFOS concentration is 6 ppt then there is an exceedance of the standard). | (T) |
| VT22 | Liquid wastes containing perfluorooctanesulfonic acid (PFOS) in concentrations equal to or greater than 20 parts per trillion (ppt). For PFOA and PFOS, the standard of 20 ppt applies to the sum of the two substances (e.g. if the PFOA concentration is 15 ppt and the PFOS concentration is 6 ppt then there is an exceedance of the standard). | (T) |
| Non-hazardous waste | | |

**(T) : Toxic**


PFOS+PFOA in 2021 Vermont Lake Memphremagog Fish Sampling compared to Vermont Hazardous Waste Management Regulations (ng/kg for fish tissue & ng/L for liquid waste)
1 600
1 400
1 200
1 000
800
600
400
200
-
One Adult portion 150 g
1477 ng/kg * .150 kg/portion = 222 ng/portion PFOS
222 ng
Transferred in 1 liter of water
Water become hazardous liquid waste 11 times over 20
20
Vermont Hazardous Waste Management Regulations
February 1, 2022
Classified as hazardous wastes
>= 20 ng/L
Sum of two PFAS in liquid wastes
PFOA
PFOS
Is a fish portion that contains those levels of PFOS safe to eat?
Vermont Lake Memphremagog Fish tissue Average One portion
Would you drink it?
Vermont Hazardous Waste Management Regulations - Liquid

# Vermont Environmental Justice Bill

No. 154
2022 (S.148) Page 6 of 20

**No. 154. An act relating to environmental justice in Vermont.**

(3) "Environmental justice" means all individuals are afforded equitable access to and distribution of environmental benefits; equitable distribution of environmental burdens; and fair and equitable treatment and meaningful participation in decision-making processes, including the development, implementation, and enforcement of environmental laws, regulations, and policies. Environmental justice recognizes the particular needs of individuals

**OVERDOSE of leachate at Newport WWTF due to inputs of solid waste from outside the Lake Memphremagog basin contribute to MORE PFAS into Lake Memphremagog and EXTRA PFOS fish tissue contamination.**

**Does that constitute a NOT « equitable distribution of environmental BURDENS »?**

MCI objectives are simple and clear: to have Newport WWTF removed

**«forever»**

from the NEWSVT Coventry list of leachate destination even after treatment and have the leachate final destination out of Lake Memphremagog basin

**«forever»**

# What is the state of Vermont's position on MCI's request to completely ban the disposal of raw, pretreated or treated leachate from the NEWSVT Coventry site to the Newport WWTF or elsewhere in the Lake Memphremagog basin?


Lac Memphrémagog
Lake Memphremagog
Un environnement partagé à préserver pour toujours
A shared environment to preserve forever
Photo MCI Gisèle Benoit
MERCI ! THANK YOU !

Memphrémagog Conservation

# APPENDIX D1 - Summary

## Capacity of Lake Champlain watershed to better accept leachate from the Coventry landfill

MCI presents the following arguments which show that the Lake Champlain watershed is a more appropriate destination for final disposition of the Coventry leachate than the Lake Memphremagog watershed.

**Technical arguments: greater treatment capacity in Montpelier than in Newport**

The leachate is currently being sent for treatment to the Montpelier waste treatment plant in the Lake Champlain watershed roughly 100 Km (62 miles) from Coventry. The treatment capacity of the Montpelier plant is triple that of the Newport plant. Most of the leachate has been treated in Montpelier since 1992. It is only from 2009 to 2019 that a fraction of the leachate was sent to Newport. Limitations on arsenic and the organic content have limited the maximum volumes that can be treated. Thus, on a technical level, Montpelier is preferable to Newport to better incorporate the leachate, and to reduce the concentration of contaminants in the discharge from the Montpelier plant.

**Environmental arguments: Better capacity to incorporate leachate as the flow is higher and the route to the aquatic border is longer**

The very long aquatic route in Lake Champlain of more than 170 km (105 miles) before the Canada/US border compared to the rather short distance of 8 km (5 miles) between the Newport plant and the border ensures a greater probability of retaining the contaminants in the American portion of Lake Champlain.

As well, the flow of the Richelieu river is triple that of the Magog river. A better dilution is ensured for the remaining contaminants in the leachate that will reach the aquatic Canada/US border.

**Equitable argument: The majority of the garbage sent to Coventry comes from residents of the Lake Champlain basin**

The Coventry landfill receives roughly 80% of its garbage from Vermont and the rest from neighbouring states, including New York. More than 95% of the garbage comes from populations and activities outside of the American portion of the Lake Memphremagog watershed. If the American portion of the Lake Memphremagog watershed somehow got stuck with Vermont's only operational solid and other waste landfill site, does it have the obligation to also accept the dumping of leachate, even pretreated, in our surface waters? For equity's sake, shouldn't the leachate definitely be handled by the major generators of the garbage buried at the Coventry landfill, who are outside the Lake Memphremagog watershed and principally in that of Lake Champlain?

MCI objectives are simple and clear:

to have Newport WWTF removed «forever» from the NEWSVT Coventry list of leachate destination even after treatment and have the leachate final destination out of Lake Memphremagog basin «forever».

What is the state of Vermont's position on MCI's request to completely ban the disposal of raw, pretreated or treated leachate from the NEWSVT Coventry site to the Newport WWTF or elsewhere in the Lake Memphremagog basin?

Memphrémagog Conservation

# APPENDIX E

## Technical comments on PFAS treatment and pretreatment at Coventry and leachate disposal

### 1. PFAS treatment underdrain UD-3

Asking for plans of what was installed?

Operational issues

- What is the frequency of sampling and analysis?
- Are the analyses carried out the same way as those for general WHEM monitoring?
- Being a gravity system, how is the flow controlled?
- How is it determined when to change the GAC (Granular Activated Carbon)?
- Based on experience, how often should the GAC be changed?

Mass balance

We recommend that a monthly mass balance be established for the PFAS measured: flow rate, concentration and load at the tributary and effluent, load of PFAS removed in GAC, mass of GAC disposed in landfill.

UD-1 and UD-2 drains

Is it considered that the UD-1 and UD-2 drains could possibly be treated by this system rather than being conveyed with the leachate?

Surety bond for post closure

NEWSVT in its letter of December 28, 2021 to the VTDEC with the subject "Phase III Underdrain Discharge Treatment System Certification Amendment"

(16) A post-closure plan that satisfies the criteria of §6-1008 of these Rules;

*See the enclosed post-closure plan created for the UD-3 PFAS Treatment System.*

(17) Evidence of compliance with the financial responsibility and capability requirements of Subchapter 8 of these Rules, or a plan for achieving compliance with these requirements which will result in compliance prior to the issuance of the draft certification;

*NEWSVT will update the existing surety bond to include the post-closure cost associated with the UD-3 PFAS Treatment System with the approval of the certification amendment Application.*

In the UD-3 PFAS TREATMENT SYSTEM DESIGN AND PILOT TEST WORK PLAN document from consultant Sanborn Head, it is shown in the POST-CLOSURE PLAN UD-3 PFAS TREATMENT SYSTEM section a POST CLOSURE COST ESTIMATE table with the assumptions "Assuming annual interest rate of 3%; 1.0% inflation)." Since general real inflation is above 1%, is there not an underestimate of the sums required in the surety bond?

Is there a mechanism for correcting and adjusting the amounts required post-closure over the years to ensure that the amount of money available will be sufficient to consider the intervention requirements during the period of 30 years of post-closure?

## 2. Leachate pretreatment

Location of pretreatment

The location of the pilot and the leachate pretreatment system would have been considered in a basin other than that of Lake Memphremagog, the latter already having the BURDEN of being the only solid waste site for non-hazardous waste in Vermont.

An equitable distribution of the BURDEN would be to locate the leachate pretreatment system in the Lake Champlain Basin, producer of the maximum solid waste in Vermont.

**What is the state of Vermont's position on the location of the final pretreatment system for leachate from Coventry?**

Possibility of treating leachate other than that from Coventry

Is it the intention of Casella and the State of Vermont to allow the Coventry leachate pretreatment system to be open to pretreating leachate from other Vermont sites?

Third-party engineer

That the third-party engineer mandated by the VTDEC continues on at least a monthly basis to review and comment on the operations and results. That the comments of the third-party engineer be available on the VTDEC website.

If the third-party engineer's recommendations are not accepted, we ask that NEWSVT details why it did not follow the third-party engineer's recommendations.

Leak retention system possible

The addition of the pretreatment system with its transfer piping adds a risk of spillage. How is the system organized to contain any spills from the transfer lines, lines in the treatment unit and tanks? What is the retention capacity if there is a leak? What alarm systems are provided in the event of a leak? How quickly will NEWSVT staff respond?

Contamination of process air

The SAFF system operates with compressed air, the evacuation of this air is known to contain PFAS as well as undoubtedly other contaminants, particularly the most volatile, contained in the leachate. How are PFAS and other contaminants removed to prevent them from being released into the building and the outside air?

The following article provides information on this air contamination: Foam fractionation for removal of per- and polyfluoroalkyl substances:

Foam fractionation for removal of per- and polyfluoroalkyl substances: Towards closing the mass balance - ScienceDirect

In extract:

> «The elevated aerial PFAS concentrations measured in the experimental facility have implications for worker safety and prevention of PFAS-emissions to the atmosphere and demonstrate the importance of installing appropriate filters on the air outlet of foam fractionation systems. »

How are the residues from the air purification system disposed of?

Mass balance

We recommend that a complete mass balance be carried out at least once a month including any additives as well as Portland cement to encapsulate the PFAS concentrates: flow rate, concentration and load at the tributary and effluent, flow rate, concentration and load of PFAS removed, air flow, concentration and load of PFAS emitted by the system before and after the air purification treatment; mass of PFAS disposed in landfill with other products.

As PFAS are removed unevenly by the SAFF system, we ask that the entire performance be considered and not just the 5 PFAS regulated by Vermont. Other PFAS, including those replacing PFAO and PFOS such as PFBS and GEN-X, which are considered by the US EPA in their health advice, must also be considered by Vermont DEC.

This study «Supplementary Information to Pilot-scale continuous foam fractionation for the removal of per- and polyfluoroalkyl substances (PFAS) from landfill leachate» ew2c00032_si_001.pdf (acs.org) demonstrate that short chains of PFAS such as PFCA may not be well removed by the foam fractionation system.

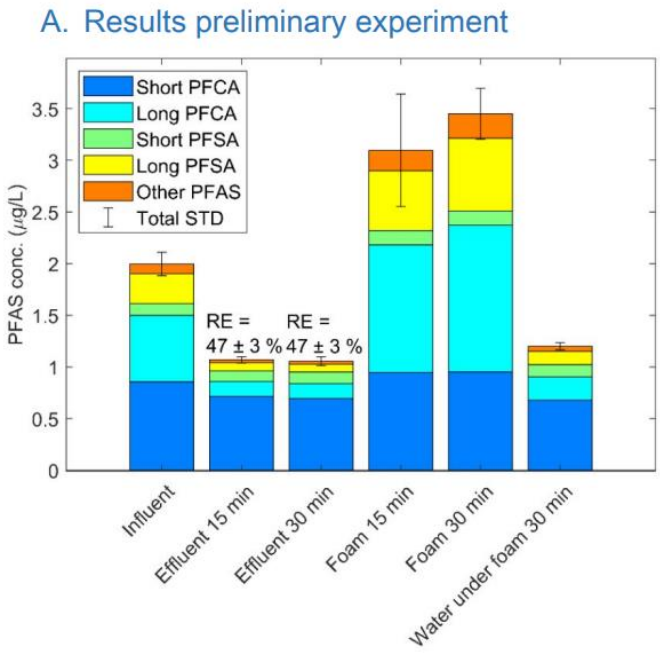



*Figure SI. 1: Overview of results of preliminary experiment ($t_c$ = 10 min, 30 % foam, AR 2.16, $Q_{air}$ 10 L $min^{-1}$). Error bars represent the standard deviation on the ΣPFAS concentration.*

Effluent objectives

What are the effluent performance objectives of the pretreatment system for each of the PFAS analyzed?

A 2021 Vermont DEC study has demonstrated that municipal wastewater treatment facilities remove very little PFAS, and that some of these facilities have even generated more than the 5 regulated PFAS in the effluent by Vermont than what was found at the influent.

Addition to the SAFF system processing chain

Is it considered to reduce PFAS which are little or not sufficiently removed in the SAFF system to add other systems such as filtration on resin and/or on granular activated carbon and/or reverse osmosis?

Disposition of PFAS foam concentrate

How will it be verified that the inclusion of the PFAS concentrate from the SAFF pretreatment system in a concrete matrix with Portland cement will be effective?

Will a leaching test such as the Toxicity Characteristic Leaching Procedure ((TCLP; US EPA Method 1311, 2001), Synthetic Precipitation Leaching Procedure (SPLP; US EPA Method 1312, 2001)) be carried out?

Where and how will cement blocks with PFAS be placed in the landfill? Will they be protected from damage? Will they be sheltered from rain runoff and melting snow?

Proprietary information

If proprietary information would prevent the production of a complete mass balance or the risk assessment of added products, it is requested to produce a list made available on the VTDEC website, indicating the reason for this non-disclosure.

## 3. Leachate disposal

This permit granted by VTDEC to NEWSVT only authorizes one leachate disposal site in Vermont, Montpelier WWTF.

This is also confirmed in Act 250

18. a. Disposal of landfill leachate from the Facility, including that generated from all Phases of the landfill (Phase I-IV) and from Phase VI, is not permitted at the Newport WWTF. Permittee may not dispose of leachate at the Newport WWTF, nor dispose of landfill leachate on-site or elsewhere within the watershed of Lake Memphremagog, without Act 250 permit amendment. This restriction shall take effect 90 days from the date of issuance of this permit.

b. Permittee may apply for Act 250 permit amendment, to modify this restriction, if such an amendment application is supported by new science, new technology and/or or new data which demonstrates, or seeks to demonstrate, that the risk to the Lake Memphremagog water quality (drinking water supply) will not be unduly adverse.

c. Permittee shall apply for an Act 250 permit amendment for any change to its method of leachate management, pre-treatment, and disposal, including but not limited to construction of on-site treatment systems.

d. Permittee shall submit a copy of its study of treatment options for leachate management (two onsite and two offsite, with both studies to be completed by October 12, 2019) to the District Commission for its file.

We ask that the final disposal of the leachate be kept forever outside the Lake Memphremagog basin given that it is a drinking water reservoir for some 175,000 Canadians. Already, as established in other documents filed by the MCI on this NEWSVT permit application, overdoses of contaminants including PFAS have been released into the Lake Memphremagog basin representing an estimate of 30% of leachate generated since 1993. This is therefore well beyond the approximately 5% of solid waste from Vermont residents of the Lake Memphremagog basin buried in Coventry.

As residents of the Lake Champlain basin are the majority producers of waste buried in Coventry, it is fair and equitable that the leachate ends up in final disposal at Montpelier WWTF or any other WWTF in this basin.

Conclusion

**MCI objectives are simple and clear:**

**to have Newport WWTF removed «forever» from the NEWSVT Coventry list of leachate destination even after treatment and have the leachate final destination out of Lake Memphremagog basin «forever».**

What is the state of Vermont's position on MCI's request to completely ban the disposal of raw, pretreated or treated leachate from the NEWSVT Coventry site to the Newport WWTF or elsewhere in the Lake Memphremagog basin?

ASSEMBLÉE NATIONALE
DU QUÉBEC

## RÉSOLUTION DE L'ASSEMBLÉE NATIONALE DU QUÉBEC

**Que** l'Assemblée nationale reconnaisse que le lac Memphrémagog constitue un attrait naturel précieux qui permet de fournir de l'eau potable à 175 000 citoyennes et citoyens en Estrie ;

**Qu'**elle salue le moratoire interdisant jusqu'en 2023 le rejet de lixiviat traité par l'usine de traitement des eaux de Newport vers le lac Memphrémagog ;

**Qu'**elle partage les inquiétudes des citoyennes et des citoyens, des élu-es et des groupes environnementaux de l'Estrie à l'égard des risques potentiels de la fin de ce moratoire pour la santé humaine et environnementale ;

**Qu'**elle prenne acte de la déclaration commune des élu-es de la région sur le lac Memphrémagog, exprimant leur volonté "que le traitement du lixiviat dans l'usine d'épuration de Newport soit interdit à long terme";

**Que** l'Assemblée nationale demande au gouvernement du Québec de prendre officiellement position pour l'interdiction permanente des rejets du lixiviat traité dans le bassin versant du lac Memphrémagog et de le revendiquer auprès du gouvernement du Vermont.

**COPIE CONFORME DE LA MOTION ADOPTÉE À L'UNANIMITÉ PAR L'ASSEMBLÉE NATIONALE LE 3 JUIN 2021.**

**Québec, ce dixième jour de juin 2021**

**ARIANE BEAUREGARD**
**Directrice de la séance et de la procédure parlementaire**
**Assemblée nationale**